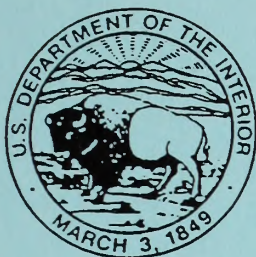




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U.S. Department of the Interior
Bureau of Land Management

Lakeview District Office
1000 South 9th Street
Lakeview, Oregon 97630

February 1996

FINAL ENVIRONMENTAL IMPACT STATEMENT

ATLAS PERLITE, INC. TUCKER HILL PERLITE PROJECT

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As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historic places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Lakeview District Office
P.O. Box 151 (1000 Ninth Street S.)
Lakeview, Oregon 97630

IN REPLY REFER TO:
3809 (015)

January 25, 1996

Dear Concerned Citizen:

Thank you for your interest in the proposed perlite mining operation at Tucker Hill. Attached you will find the Final Environmental Impact Statement (EIS) analyzing the impacts of the preferred mineral development alternative and three other alternatives on approximately 38 acres of lands administered by the Bureau of Land Management in central Lake County, Oregon.

The Final EIS has been prepared in an abbreviated format, meaning substantial portions of the draft did not change and are not being reproduced in the final. Therefore, when reviewing the Final EIS it is important to retain your copy of the draft for background reference. Additional copies of the Draft EIS may be obtained by contacting the Lakeview District Office of the Bureau of Land Management.

A 30-day public review of the Final EIS is being provided. Comments on the Final EIS may be directed to Mr. Ted Davis or Mr. Paul Whitman at: Bureau of Land Management, Lakeview District, P.O. Box 151, Lakeview, Oregon 97630, or by telephoning (541) 947-2177. Comments must be received by March 18, 1996.

Thank you for your continued interest and participation in public land management issues.

Sincerely,

Edwin J. Singleton
District Manager

Attachment, as stated

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FINAL ENVIRONMENTAL IMPACT STATEMENT

Tucker Hill Perlite Project
Lake County, Oregon

Responsible Agency

USDI Bureau of Land Management
Lakeview District

For information Related to this FEIS Contact:

Ted Davis, Project Manager
Bureau of Land Management
P.O. Box 151 (1000 Ninth Street S.)
Lakeview, Oregon 97630
Telephone: (503) 947-2177

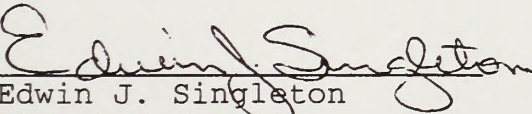
DATE FINAL EIS WAS MADE AVAILABLE TO THE ENVIRONMENTAL PROTECTION AGENCY AND THE PUBLIC:

February 16, 1996

ABSTRACT

This Final Environmental Impact Statement (FEIS) responds to comments received during the public comment period on the Draft Environmental Impact Statement (DEIS) which analyzed impacts due to the development of a 15-20 acre perlite quarry with an associated waste rock dump and access road on Tucker Hill, located approximately 35 miles northwest of the town of Lakeview, Oregon. The ore would be mined at Tucker Hill and hauled to Lakeview for processing and shipment.

Three alternatives to the Proposed Action were analyzed in the DEIS. The Agency Preferred Alternative (Alternative C) is as described in the FEIS.


Edwin J. Singleton
District Manager
Lakeview District

2-2-96
Date

FINAL
ENVIRONMENTAL IMPACT STATEMENT
Tucker Hill Perlite Project
Lake County, Oregon

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SUMMARY OF THE DEIS

This abbreviated Final Environmental Impact Statement (FEIS) contains modifications and changes to the Draft Environmental Impact Statement (DEIS). Text modifications are highlighted in italics.

PROPOSAL

Atlas Perlite, Inc. (Atlas) is proposing to develop a 15- to 20-acre perlite quarry with an associated waste rock dump and access road on Tucker Hill, located approximately 35 miles northwest of the town of Lakeview, Oregon. A total of 37.7 acres would be disturbed. The ore would be hauled from Tucker Hill to Lakeview where it would be crushed and sorted and shipped to markets in the northwest.

The proposed project would be located in Sections 23 through 26 and 35, T34S, R19E, Willamette Baseline and Meridian, in Lake County, Oregon. Approximately 36 of the acres to be disturbed are located on lands administrated by the Lakeview Resource Area of the Bureau of Land Management (BLM). The remaining acres (approximately two acres) are on private lands. Atlas proposes to operate the quarry for 10 years, and this analysis is based on the projected effects of a 10-year operation. Any extension beyond 10 years, *or any acceleration of the operation which would result in reaching these projected effects prior to 10 years*, would require a modification of the Plan of Operations and a new environmental study.

Tucker Hill has been explored for minerals since 1949 with intensive exploration beginning in 1982. The landscape on Tucker Hill has been somewhat modified as the result of the construction of four to five miles of road, drilling of over 100 exploration holes, and mining of about 50 tons of perlite ore. Between 1987 and 1990, an additional 18 exploration holes were completed and a number of samples were collected for testing. Much of the previous exploration has been rehabilitated, but there is clear evidence of past and current exploration.

PURPOSE AND NEED FOR THE PROJECT

The purpose of the Proposed Action is to develop and operate a perlite quarry operation to meet demands for products made from perlite in the northwest. Perlite is used for manufacture of ceiling tiles for building construction, as a filter aid, and for a variety of agricultural purposes, including potting soil. There is one producing perlite mine on Dooley Mountain near Baker City, Oregon. However, this mine produces such a small quantity of perlite (less than 5,000 cubic yards) that it is not required to be permitted by the State of Oregon. Although the demand for perlite is expected to remain stable or only slightly increase, Tucker Hill would have a competitive advantage over other producers of perlite because of its closer proximity to the northwest and Pacific Rim markets, resulting in less cost to consumers and less use of fossil fuels.

The question of other potential sources of perlite on non-public lands in the Pacific northwest was raised during public scoping. Although other perlite is present in Oregon on both public and private lands, there are no other reported perlite deposits in the Pacific northwest which could provide materials of the quality and quantity located at Tucker Hill. Transportation costs can more than double the cost of perlite to users (Kadey, 1983), and providing a Pacific northwest regional source for perlite would likely benefit consumers and would lower shipping energy requirements. In 1982, New Mexico accounted for 83 percent of the U.S. perlite production (Kadey, 1983). Remaining production was from smaller deposits in Arizona, California, Nevada, and Colorado.

Perlite is a volcanic rock which possesses unique characteristics which allow it to expand into a lightweight material upon heating. The expandability of perlite is due to its glassy character and a small quantity of contained water. Upon heating the material to its softening temperature (typically between 1400°F and 2100°F), the water volatilizes and expands the rock. Many inferior perlite deposits exist which have insufficient water or overly viscous rock which result in “dead” perlite with no commercial value. Alternatively, too much contained water will result in excessive expansion which results in the production of excessive, non-commercial fines. Specialty products which can be created with perlite (filters, light weight aggregates, insulation, or horticultural additives) may require rigid specifications which can only be met with very specific rock types (Kadey, 1983). *Based on testing conducted in 1994 by Wyant Machinery Company, Inc. and the New Mexico Bureau of Mines and Minerals Resources, test evaluations of bulk samples indicate the Tucker Hill perlite is of the universal variety suitable for a wide variety of expanded perlite products, and that it performs as well as, or better than, other perlite ores currently being processed (Wilson and Emmons, 1984; Atlas Perlite, Inc., 1994).*

PLANNING ISSUES

Public scoping and consultation with four federally recognized Native American tribal governments resulted in the identification of 13 planning issues. The planning issues include:

Native American Concerns

Cultural Resources

Visual Resources

Soils

Vegetation

Air Quality

Wildlife

Threatened, Endangered, and Candidate Wildlife Species

Land Uses/Access

Socioeconomic Impacts

Noise

Groundwater and Water Quality

Health and Safety

Other issues discussed in the DEIS include recreation and range resources. Although all the issues were analyzed in the DEIS, four major issues emerged from the scoping and consultation related to the project. These were concerns raised by some of the Native Americans who have declared the Chewaucan River Basin, including Tucker Hill, as a sacred area; concern over potential impacts to the extensive archaeological resources on Tucker Hill; the need to maintain the integrity of the area for religious uses including potential impacts on visual quality; and interest in the economic issues or benefits that would accrue from the project to Lakeview and Lake County.

The archaeological survey indicates that the Chewaucan River Basin has been used by humans for thousands of years. The earliest period of human occupation was identified as Pre-Archaic or 11,000 to 7,000 years from the present. Occupation appears to be continuous up through the early 1900s when Native Americans felt closed out of the area by private landowners. The area was evidently used for a variety of traditional uses including hunting, gathering of food and fiber, as well as religious or spiritual purposes. There is at least one burial site on the Tucker Hill formation and there may be others indicated from oral interviews with Native Americans. The identified burial site would not be physically affected by the proposed project. Based on the archaeological evidence and the interviews with the Native Americans, it has been determined that Tucker Hill appears to be eligible for listing on the National Register of Historic Places as both an Archaeological District and as a Traditional Cultural Property.

ALTERNATIVES

The alternatives considered in the DEIS were developed to respond to key planning issues and were based on potential impacts associated with the Proposed Action. A major concern identified by the Interdisciplinary Team (IDT) was the potential impacts on the integrity of the formation as it relates to Native American cultural values, visual quality and vegetation. The BLM is also required to analyze the No Action Alternative, which describes the environmental consequences that would occur if the project is not implemented and is the baseline for the impact analysis.

Alternative A - The Proposed Action includes a 20 acre perlite quarry, a six acre waste rock dump site on Tucker Hill and upgrading of 3.3 miles of an existing road to haul the ore. The bulk of the quarry operation would take place during two campaigns per year (early summer and late fall, to avoid conflicts with wildlife), each approximately 45 days long. There may be a need for a blasting operation during the spring (February 1 - June 30) for the project start-up year only. This blasting operation would last approximately seven days, not necessarily consecutively, and would be authorized by the BLM's Lakeview Resource Area Wildlife Biologist in accordance with the Blasting Schedule described in Appendix IV. The quarried material would be stockpiled in place on the quarry floor for hauling. The stockpiled ore would be hauled via the existing upgraded access road to Highway 31 and then south to the town of Lakeview for processing. There would be two trucks averaging 10 trips per day per truck working a five day work week (normally Monday through Friday, 6 am to 6 pm) delivering ore to the processing facility in Lakeview. Hauling would occur

year round. Processed perlite product would then be shipped in bulk to manufacturers or end users by rail or truck, with an average of five truckloads being shipped each week.

Alternative B - (Alternative Tucker Hill Waste Rock Dump Location) - This alternative is the same as the Proposed Action except that the waste rock site would be located directly southwest of the quarry. The quarry, access road, service road, service areas, mining operation and reclamation are the same as Alternative A. This alternative was developed in response to a concern of the potential impacts on visual quality when viewed by people traveling along Highway 31.

Alternative C - (Alternative County Gravel Pit Waste Rock Dump Location) - This alternative is a variation of Alternative B. It is the same as Alternative A except for the alternative waste rock dump site. This alternative provides that the waste rock generated by the quarrying operations would be hauled off Tucker Hill and placed in the existing gravel pit located adjacent to Highway 31 and operated by Lake County.

Alternative D - (No Action) - This alternative is described as no project, or no perlite quarry. Current management provided by the High Desert Management Plan would continue. The current disturbance from previous exploration would be rehabilitated. *This alternative also assumes that exploration activity would continue.*

When a valid mining claim is located on land open to mineral entry, the BLM's discretion to approve a properly submitted mining plan is limited to requiring the claimant/operator prevent unnecessary or undue degradation of the resource. Unnecessary or undue degradation, as defined under 43 CFR Part 3809, means disturbance greater than would normally result when a mining activity is being accomplished by a prudent operator in usual, customary, and proficient operations of similar character and taking into consideration the effects of operations on other resources and land uses, including those resources and uses outside the area of operations. Therefore, the No Action alternative would not be a viable option if the mining plan or a modified version of the mining plan prevents unnecessary or undue degradation. Because of this, the No Action alternative is included only as a baseline for comparison of environmental impacts of the other alternatives.

ALTERNATIVES ELIMINATED FROM DETAILED STUDY

Alternative Haul Road Location

Atlas considered construction of a new road on a new location across BLM administered public lands early in the process. However, in reviewing the potential for impacting archeological, visuals, and geologic resources with a new road location, it was decided to limit construction along the existing access road.

Alternative Processing Sites in Lakeview

Atlas evaluated a number of processing sites in Lakeview including a site on the south end of town and the selected site on the north end of Lakeview. This review was done in consultation with Lakeview and Lake County officials. The south site was eliminated based on access to the quarry, the fact that perlite ore would not have to be hauled through town, and accessibility to the railroad.

Withdrawal of Tucker Hill from Mineral Entry

As the current land use plan provides for development of the mineral resources, an action to withdraw the area from mineral entry would require a Plan amendment. Any Plan amendments would require an evaluation of all resource and land use values including mineral values, existing claims and rights of the claim owners. Implementation of this alternative would prohibit the location of new mining claims, but would be subject to valid existing rights. Based on several analyses done on the Tucker Hill perlite deposit (Peterson, 1961, and Wilson and Emmons, 1985) there is a high potential for the occurrence of a high grade perlite deposit, therefore, the withdrawal alternative was eliminated from further consideration.

Designation of Tucker Hill as an Area of Critical Environmental Concern (ACEC)

It appears that Tucker Hill may likely meet the requirements of a cultural Area of Critical Environmental Concern (ACEC) as defined in the Federal Land Policy and Management Act (FLPMA). Designation of the area as an ACEC would formally recognize the special cultural values of Tucker Hill, but would require an amendment to the existing land use plan.

This alternative was dropped from further evaluation as formal ACEC designation is outside the scope of analysis and would not, in and of itself, preclude mineral development or provide any additional protection to cultural resources above that provided by existing laws, regulations or policies.

ENVIRONMENTAL CONSEQUENCES

Table S.1 provides a summary of the Environmental Consequences of the Proposed Action and the Alternatives. The greatest potential impact of the project appears to be the effect of the project on the sacred area as viewed by some Native Americans. The actual impacts on Native American traditional uses of the area are difficult to measure. However, in the view of some Native American consultants, the project would have a major impact on their use of Tucker Hill.

TABLE S-1 SUMMARY COMPARISON OF IMPACTS BY ALTERNATIVE

ISSUE	POTENTIAL IMPACTS BY ALTERNATIVES			
	A	B	C	D
Disturbance Existing New	8.4 acres 29.3 acres	8.4 acres 28.3 acres	8.4 acres 23.3 acres	8.4 acres 0.0 acres
Total Disturbance	37.7 acres	36.7 acres	31.7 acres	8.4 acres
Native American Traditional Values (plants, hunting, visual integrity and religious	Impact to plants and hunting considered minimal. Impact to visual integrity is considered strong to moderate. Impacts to religious uses is considered major by some tribal consultants.	Same as Alternative A.	Impacts to plants, hunting, visual integrity, and religious uses are less than that described for Alternative A as the waste rock dump (6 acres) is removed from Tucker Hill resulting in less disturbance.	No change
Archaeological Resources	Potential physical impact to 14 cultural sites including two stacked stone features. No physical impact to known burial sites petroglyphs, petroglyphs, caves or rockshelters.	Potential to physically impact an additional stone stacked feature. Other impacts the same as alternative A.	Same as Alternative A, except the elimination of waste rock dump on Tucker Hill minimize potential impact on one site with a large lithic scatter.	No change
Recreation	No impact	No impact	No impact	No change

ISSUE	POTENTIAL IMPACTS BY ALTERNATIVES			
	A	B	C	D
Visual Quality * KOP # 1	Moderate during mining, slight after reclamation.	Reduced impact compared to Alternative A	Reduced impact compared to Alternative A & B.	No change
KOP #2	Strong to moderate after reclamation.	Slightly increased visual impact compared to Alternative A.	Same as Alternative A.	
KOP #3	Strong to moderate during mining and after reclamation.	Slightly increased visual impact compared to Alternative A.	Same as Alternative A.	
	Meets VRM III Objectives	Meets VRM III Objectives	Meets VRM III Objectives	Meets VRM III Objectives
Range	No impact	No impact	No impact	No change
Vegetation/soils	Permanent loss of 20 acres (quarry) Temporary loss of 17.7 acres	Permanent loss of 20 acres Temporary loss of 16.7 acres	Permanent loss of 20 acres Temporary loss of 11.7 acres	No change
Threatened, Endangered & Sensitive Plants	No impact	No impact	No impact	No change
Noxious Weeds	low risk for invasion	low risk	low risk	No known populations
Air Quality	low impact - meets State Standards	low - meets State Standards	low - meets State Standards	Meets State Standards

ISSUE	POTENTIAL IMPACTS BY ALTERNATIVES			
	A	B	C	D
Wildlife	Permanent loss of 20 acres (quarry) of habitat. Temporary loss of 17.7 acres. Minimum to low impact on raptors	Permanent loss of 20 acres of habitat. Temporary loss of 16.7 acres. Minimum to low impact on raptors	Permanent loss of 20 acres of habitat. Temporary loss of 11.7 acres. Minimum to low impact on raptors	No change
Threatened, Endangered & Sensitive wildlife	No Effect Determination on Bald Eagles	Same as Alt A	Same as Alt A	No change
Health and Safety	Minimum to low risk	Minimum to low risk	Minimum to low risk	No change
Land Use & Access	Road would be improved. Public access needs would be determined through reclamation planning	Same as Alt A	Same as Alt A	No road improvement. No public road access to Tucker Hill.
Social Economics	18 direct & indirect jobs provided. Some increase in tax revenues to local governments	Same as Alt A	Same as Alt A	No additional jobs or tax revenues.
Groundwater/ water quality	low if any	low if any	low if any	none
Noise	low	low	low	none

CHAPTER I INTRODUCTION

This abbreviated Final Environmental Impact Statement (FEIS) has been prepared for Atlas Perlite Inc.'s (Atlas') proposed Tucker Hill Perlite Quarry in Lake County, Oregon. The FEIS includes the Agency Preferred Alternative, a record of written and verbal comments received on the Draft Environmental Impact Statement (DEIS) and responses to those comments. The previously distributed DEIS and this document together constitute the FEIS for the proposed Tucker Hill perlite project.

The Tucker Hill Perlite Project DEIS was distributed for public review on October 6, 1995. The Bureau of Land Management (BLM) requested written comments during the public comment period which ended December 5, 1995. Neither written comments nor verbal comments received during the public comment period required major changes or revisions in the analysis or conclusions presented in the DEIS. This document must be read in conjunction with the DEIS. Readers should retain their copy of the DEIS for reference. However, additional copies of the DEIS (and FEIS) are available by contacting the Lakeview District Office. Some minor revisions were made to the text of the DEIS and are contained in Chapter III of this document.

The Agency Preferred Alternative is described in Chapter II. Chapter III presents specific modifications and corrections to the DEIS. All comment letters and responses to substantive comments are provided in Chapter IV; Chapter V provides an update to the List of Agencies, Groups and Persons that will receive copies of the FEIS.

CHAPTER II AGENCY PREFERRED ALTERNATIVE

IMPLEMENTATION REQUIREMENTS

The Agency Preferred Alternative will be implemented in accordance with the *High Desert Management Framework Plan (BLM, 1983) Direction*, described on pages 3 - 5 of the DEIS, the Project Design Features and Requirements (page 12 of the FEIS), and Mitigation Measures (page 13 of the FEIS).

DESCRIPTION OF THE AGENCY PREFERRED ALTERNATIVE

The Agency Preferred Alternative includes the development of a 15- to 20-acre quarry on Tucker Hill and upgrading of 3.3 miles of an existing road to haul the ore. The existing county gravel pit located adjacent to Highway 31 at the north end of Tucker Hill would be used for storage of the waste rock generated from the operation. The bulk of the quarry operation would take place during two campaigns per year (early summer and late fall, to avoid conflicts with wildlife), each approximately 45 days long. There may be a need for a blasting operation during the spring (February 1 - June 30) for the project start-up year only. This blasting operation would last approximately seven days, not necessarily consecutively, and would be authorized by the BLM's Lakeview Resource Area Wildlife Biologist in accordance with the Blasting Schedule described in the DEIS, Appendix IV. The quarried material would be stockpiled in place on the quarry floor for hauling. The stockpiled ore would be hauled via the existing upgraded access road to Highway 31 and then south to the town of Lakeview for processing. There would be two trucks averaging 10 trips per day per truck working a five day work week (normally Monday through Friday) delivering ore to the processing facility in Lakeview. Hauling would occur year round. Processed perlite product would then be shipped in bulk to manufacturers or end users by rail or truck, with an average of five truckloads being shipped each week.

The proposed acreage of disturbance for this project is given in Table 2-1.

Quarry Development

The Tucker Hill perlite deposit would be quarried using conventional methods consisting of drilling, blasting, loading, and hauling. The rock would be drilled with diesel-powered blast hole drills using 10- to 12-foot drill hole centers depending on material. The holes would be loaded with a blasting agent (ANFO, a mixture of ammonium nitrate and fuel oil) and blasted in accordance with regulations of the federal Mine Safety and Health Administration. *The ANFO would be brought on-site immediately prior to the bi-annual blasting periods and would be stored in sealed containers.* The Lakeview Interagency Fire Center would be notified of the Tucker Hill blasting schedule a minimum of two days prior to any blasting.

TABLE 2-1 SURFACE DISTURBANCE, AGENCY PREFERRED ALTERNATIVE

Disturbance Component	Existing Acres	Proposed Acres		Total Acres	
		5 year	10 year	5 year	10 year
Main Haul Road	3.7	3.5	4.0	7.2	7.7
Quarry Area	0.0	13.8	20.0	13.8	20.0
Growth Medium Stockpiles	0.0	0.5	0.5	0.5	0.5
1994 Drill Access*	0.4	-0.4	-0.4	0.0	0.0
Exploration Roads	2.2	0.0	0.0	2.2	2.2
Bulk Sample Sites*	2.1	-0.8	-0.8	1.3	1.3
Total	8.4	16.6	23.3	25.0	31.7

* There are 0.4 acres of existing disturbance associated with drilling access and 0.8 acres of disturbance from bulk sample sites from previous exploration. The Agency Preferred Alternative would reclaim the 1.2 acres of existing disturbance as part of the reclamation of the mining operation. The existing county gravel pit would be utilized as the site for the waste rock dump.

Figure 1 shows the proposed disturbance including the mine configuration, haul road and growth medium stockpiles over a 10 year period.

The blasted rock would be loaded with front-end loaders into haul trucks (22 to 25 ton capacity). Waste rock would be hauled to the waste rock dump site located at the county gravel pit. Ore would be hauled over the upgraded existing access road to Highway 31 and then south to the process facility in Lakeview where it would be screened, sized and transloaded for rail or truck shipment.

Based upon the current mine plan, the estimated quantity of perlite ore that could be extracted over a 10 year period would be approximately 1.5 million short tons. The estimated waste tonnage associated with this ore production would be 72,000 tons.

Waste Rock Dump

The waste rock dump would be located at the existing county gravel pit where it will be used by the county either as material for the county road maintenance program or as fill for final reclamation of the pit.

Operations

After the initial start up period in 1996, the bulk of the proposed quarry operations would take place during two campaigns per year, each approximately 45 days during early summer and late fall to avoid conflicts with wildlife. There may be a need for a short blasting period (approximately seven

days, not necessarily consecutively) between December and January 31 and/or July 1 through 31. Blasting would be scheduled as described in Appendix IV of the DEIS. Quarried material would be stockpiled in place on the quarry floor. There would be two trucks averaging 10 trips per day per truck working a five day work week (normally Monday through Friday) from approximately 6 a.m. to 6 p.m. daily. The hauling would be done year round and there would be an average of two people at the quarry while hauling. During the quarry campaigns, there would be three to four people on site during the work day. The equipment and facilities Atlas plans to use at the quarry include:

- 2 - 25 ton Dump Trucks
- 1 - D9 or equivalent Dozer
- 1 - 980 or equivalent Front End Loader
- Drill Rig
- 1 - 3,000 gallon Water Truck
- Light Vehicles (pick-up trucks)
- Office Trailer

The expected mine life based on the minable reserves and projected production rates would be a minimum of five years. It is conceivable that given market conditions might allow the opportunity to extend the operations under this plan up to an additional five years.

Growth Medium Management

Prior to construction of the quarry and waste rock dump and upgrading of the haul road, the available growth medium (soil material) that can feasibly be obtained with standard equipment would be removed and stockpiled. Growth medium material would be removed from all disturbed areas, except the growth medium stockpile locations, by either bulldozing the existing growth medium material and vegetation into piles along the slopes and near the reconstructed haul road or by loading into trucks and hauling the material to designated stockpile locations. It is possible that very little growth medium would be available for reclamation. The possibility of obtaining additional growth medium from an off-site location was reevaluated by the BLM based on comments received on the DEIS. The concept of developing an off-site borrow area was dropped after the reevaluation because of the potential for introducing noxious weeds and the impacts resulting from the disturbance of another site.

The growth medium stockpile would be constructed like a waste rock dump. The material would be end-dumped to its angle of repose and then regraded to slopes of about 2.5h:1v. The completed stockpile would be stabilized during the operational phase by seeding with a seed mix to be determined through consultation with the BLM. The application of seed would be following stockpile construction at a time conducive to seed germination.

Monitoring of disturbed and reclaimed areas would include the detection and appropriate removal of any invader species. Specific invader species and their control would be determined through consultation with representatives of the BLM. The possibility of ground-disturbing projects that alter plant communities has been evaluated in accordance with BLM Manual 9015 to determine the risk of introducing noxious weeds.

Access (Haul Road)

The project site would be accessed using the existing 3.3 mile road. The existing road would be resurfaced with crushed stone or gravel, where necessary, to provide for an all weather travel surface. Turn-outs would be constructed where appropriate to provide for safety. During operations, the road would be graded and watered to maintain the surface and control fugitive dust. The existing road would be expanded to an approximate running width of 18 feet with total disturbance width not to exceed 30-32 feet and a maximum cutbank height of approximately six feet. A new road would be constructed on the private lands directly south of Highway 31 to the east of the existing corrals. The new route would follow a previously existing roadbed site.

Access Control

Public access to the quarry area would be restricted for the duration of the operation. This would be accomplished administratively and by the posting of warning signs located in strategic areas and marked with words of "warning" applicable to the danger associated with the operations.

Access would be provided to individuals or groups requiring access to or through the quarry area for such purposes as education, research and/or cultural/religious practices. However, there is no public access on that portion of the haul road which crosses private land.

Reclamation Plan

Prevention of Unnecessary or Undue Degradation

The Reclamation Plan will be developed in accordance with BLM Handbook 3041-1, "Solid Minerals Reclamation Handbook." Details of the Reclamation Plan will be monitored and administered by the DOGAMI as well as the BLM. Design and construction of the project facilities would be conducted in a manner which prevents unnecessary or undue degradation of the environment.

Project Schedule

The project life through completion based on the current plan is 10 years. The schedule could be affected if conditions change sufficiently. As a result of the modest size and nature of the project, concurrent reclamation for the waste rock dumps, haul road and quarry is not practicable. Reclamation would be performed upon termination of operations. Reclamation of existing exploration-related disturbances outside of the proposed quarry area would be reclaimed during the life of the proposed quarry operations.

Post Operational Land Uses

The objectives of the reclamation plan include preventing or minimizing safety hazards, stabilizing disturbed areas, and providing for a post operation surface condition that would be consistent with the long-term land uses as specified by the BLM.

Reclamation of Waste Rock Dump (County Gravel Pit)

Because Lake County may use some of the waste rock material for their road maintenance operations, the county would reclaim the existing gravel pit in accordance with requirements of the BLM and DOGAMI upon closure of the pit.

Road Reclamation

Long-term management of the access road would be determined as part of the reclamation process. Possible options include:

- Permanently close the road, bring the road bed back to the original contour as closely as possible, and revegetate the road corridor. Regrading and recontouring of the existing haul road could be done to approximate the existing road configuration. Fill material, enhanced with available growth medium, would be pulled onto the roadbed to fill against new road cuts and restore the slope to its existing contour as needed. Compaction would be relieved during excavation by ripping and smoothing the surface with the excavator bucket. This process would help inhibit soil loss from runoff and provide a suitable seedbed. Revegetation of the regraded area would be consistent with methods described under Revegetation;
- Stabilize the road as needed for protection of the watershed and road bed. Maintain existing access for BLM administrative purposes; or
- Maintain the road for both public and administrative use. This option would require an easement or right-of-way for the portion of the road across private lands.

Drainage and Sediment Control

The goal of the drainage and sediment control plan is to convey runoff from reclaimed areas and up-gradient undisturbed areas through the project site in a manner which would protect the reclaimed areas and prevent degradation of down-gradient water quality. The drainage and sediment control plan has been designed to require no maintenance.

The main method of drainage and sediment control at the project site would be revegetating all disturbed areas, with the exception of the quarry. Drainage on roads would be by ditching, installation of waterbars and, where appropriate, culverts. Road running surfaces would be rocked

to reduce sediment runoff. Drainage facilities would be designed to accepted road engineering standards.

Upon reclamation, the Tucker Hill quarry would remain as a potential impoundment area. However, no groundwater would be ponded, as demonstrated by test drilling, to depths below the planned quarry bottom. The small amount of runoff entering the quarry from up-gradient areas and the runoff from the quarry walls themselves would rapidly evaporate and/or infiltrate through the porous rock so standing water would not be expected. Technically, during operation the quarry would be a topographic depression and all precipitation falling onto the quarry surface area would be contained on-site. Construction by this method would help control potential erosion from site run-off. Because the quarry is located on the top of Tucker Hill, no watershed exists up-gradient of the quarry, and only the precipitation directly falling onto the quarry area could be impounded. However, the site is arid, annual evaporation exceeds precipitation, and the perlite is fractured. These factors would lead to rapid infiltration or evaporation of precipitation. Consequently, it is highly unlikely that any water would be impounded.

Based on available data (see New Mexico Bureau of Mines and Mineral Resources or BMMR data in FEIS Appendix V), there does not appear to be any sulfides present in the ore or waste rock to contribute to acid rock drainage in the event there was standing water for a brief period. *Three analytical testing procedures performed on the Tucker Hill perlite by the New Mexico BMMR (total metals [acid soluble], leachable metals [TCLP], and acid/base accounting) indicate that the ore contains low levels of metals, and that the metals tested would not be mobilized in the environment.* The test for acid-base potential indicates there is a substantial excess of neutralization potential of the material which suggests that the potential for the generation of acidic conditions, and potential mobilization of metals, would be very low. Table 2-2 provides a general lab analysis of the material sampled from Tucker Hill.

TABLE 2-2 TYPICAL CHEMICAL ANALYSES (PERCENT)

SiO ₂	74.2%	CaO	1.3%
Al ₂ O ₃	12.6%	Na ₂ O	3.8%
Total Fe	0.5%	K ₂ O	4.5%
Fe ₂ O ₃	0.52%	LOI	3.3%
TiO ₂	0.06%	Moisture	0.2%
MgO	0.10%		

Revegetation

The revegetation methods described at this time are generally based on common industry practices. Further refinement is anticipated as site specific results are derived from future test plot and seed bank programs. *A seed bank would be obtained from an off-site test plot seeded from native plants growing on the Tucker Hill formation.*

The seed mix included in this proposal is based on known soil and climatic conditions and was selected to establish a plant community which would support post-mining land uses as prescribed by the BLM. The present seed mix is designed to provide species that can become established in the environment of southcentral Oregon, are proven species for revegetation, and/or are native species found in the plant communities prior to disturbance.

Of the seeds listed in Table 2-3, a minimum of seven species, including grasses, forbs, and shrubs, would be seeded based on seed availability at the time of planting and the success of species concluded from the test plots and concurrent reclamation. The test plots would be designed, monitored and analyzed by the mining company in conjunction with the BLM and DOGAMI.

TABLE 2-3 REVEGETATION SEED MIXTURE

Species	Common Name	Pounds Per Acre*
<i>Agropyron spicatum</i>	Bluebunch Wheatgrass	5.0
<i>Danthonia unispicata</i>	Single Spike Oat Grass	3.0
<i>Leymus cinereus</i> (<i>Elymus cinereus</i>)	Basin Wildrye	2.0
<i>Atriplex confertifolia</i>	Shadscale	3.0
<i>Poa sandbergii</i>	Sandberg Bluegrass	1.0
<i>Elymus elymoides</i> (<i>Sitanion hystrix</i>)	Bottlebrush Squirreletail	1.0
<i>Astragalus</i> sp.	Astragalus	1.0
<i>Trifolium</i> spp.	Clover	1.0
<i>Artemisia tridentata</i>	Great Basin Sagebrush	2.0
<i>Purshia tridentata</i>	Antelope Bitterbrush	1.0

*Seeding rate is for hand broadcasting of pure live seed (PLS). The seeding rate for each species would be adjusted to result in a total of 20.0 PLS pounds per acre.

The specific seeding rates, mulch type and application rates, fertilizer requirements, and revegetation techniques would all be established through the test plot program.

Seeding activities would be timed to take advantage of optimal climatic windows and would be coordinated with other reclamation activities. In general, earthwork would be completed in the summer or early fall. Seed bed preparation and seeding would be done in the fall, or when appropriate.

Squirreltail grass would be used for temporary stabilization of soil and to prevent weeds from invading disturbed soil areas.

Revegetation planning would be coordinated by Atlas and the BLM.

Reclamation of Quarry

The quarry walls would be left with overall slopes of approximately 22 degrees with benches approximately 10-12 feet vertical by approximately 25 feet horizontal. This would provide a very stable final slope.

There would be no surface discharge from the quarry. The relatively small amount of runoff from the surrounding land surfaces and precipitation directly into the quarry would either evaporate or percolate into the exposed bedrock in the quarry bottom.

The proposed operation involves the quarrying of a uniformly high-grade perlite deposit. The geologic setting of the deposit allows for the extraction of ore from a single open pit quarrying operation. As multiple adjacent quarries would not be developed, sequential back-filling is not possible. Further, placing the excavated waste from the waste rock dump into the quarry would not result in an improved backfill condition since the bulk (99 percent) of the excavated matter removed would be perlite ore. Backfill would create an economic obstacle should the quarry be re-opened.

Prior to final reclamation, public safety concerns would be evaluated with the BLM and the DOGAMI. If determined to be necessary by the agencies, the company would construct a rock or waste material safety berm approximately five feet high with a one foot wide top and 1.5h:1v side slopes along the margin of the pit about 25 feet back from the highwall edge. This berm would be posted with warning signs located in front of the berm and spaced every 200 feet. The permanent waste material berm and/or weather resistant metal signs would provide for public safety for many years following mining. Safety berms would be seeded with the approved seed mix to reduce visual impacts of the quarry due to color contrasts.

Monitoring and Maintenance of Reclaimed Areas

Environmental monitoring of the project area would consist of both operational and post-reclamation monitoring. Operational monitoring would extend for the duration of operations and would cease when operations are terminated. Post-reclamation monitoring would commence on any reclaimed area following completion of the reclamation work for the area and would occur along with, and/or

following operational monitoring until the project's reclamation bond is released by the BLM. Annual reports on the progress of the reclamation would be submitted to BLM and DOGAMI. Reclamation would be considered successful when the disturbed sites are stabilized, secondary plant succession is established, and the conditions are set to realize the post-mining land use objectives. The type and frequency of monitoring is described in Table 2-4.

TABLE 2-4 MONITORING PROGRAM

Type of Monitoring	Operational Frequency	Post-Operational Frequency
Condition of drainage and sediment control	Monthly	Annually until released
Condition of reclaimed areas	Annually	Annually until released

Drill Hole Plugging

All exploration drill holes at the project site have been plugged according to the State of Oregon requirements. Although no additional drilling is currently planned, any additional holes resulting from future development drilling within or adjacent to the quarry would also be plugged according to these requirements.

Concurrent Reclamation

Revegetation of exploration roads and pads not located within the mining component boundary would take place during the mining of the project. Reclamation would be considered successful when the disturbed sites are stabilized, secondary plant succession is established, and the conditions are met to realize the land use objectives.

Processing Site

The processing site for the perlite ore would be on the north end of Lakeview in an existing industrial site. The site is located just west of U.S. Highway 395 and adjacent to the Goose Lake Lumber Company to the south. Access to the property is provided by County Road 2-18c and the Dusenbury Logging Road. The ore would be stockpiled on the site where it would be crushed and then loaded on either railroad cars or trucks for delivery to markets in the northwest.

The proposed mine and processing facility would be required to operate in accordance with all applicable Federal and State environmental/safety laws and regulations including OSHA and MSHA safety regulations.

PROJECT DESIGN FEATURES AND REQUIREMENTS

- An initial one-week (seven day) blasting period, not necessarily consecutively, would be permitted immediately after project approval, which is expected in the spring of 1996. This would provide sufficient perlite to meet market demands during the spring period of the first year of operations. The blasting operation would be coordinated with the BLM's Lakeview Resource Area Biologist to minimize possible impacts to wildlife, and would utilize blasting techniques that minimize impacts on wildlife. After the first year, the following requirements would be followed: (See DEIS Appendix IV for the Blasting Schedule)

No blasting during raptor nesting season (February 1 through June 30) to protect nesting raptors, late wintering bald eagles, and potential bat nurseries.

Blasting between December 1 and January 31 would be coordinated/authorized by the BLM Lakeview Resource Area biologist to protect wintering bald eagles and maintain the No Effect Determination.

Blasting during the month of July would be coordinated/authorized by the BLM biologist to minimize impacts to late fledging raptors.

- Sufficient water for dust abatement would be provided on the haul road to reduce any dust plumes and minimize impacts on air quality and visual quality.
- Implementation of the project would be in accordance with provisions of the Historic Properties Treatment Plan (HPTP) to mitigate, to the extent possible, impacts to cultural resources.
- Should any additional archeological discoveries be encountered during ground disturbing activities, all such activities shall halt within a 50 meter radius of the discovery, and the BLM shall be contacted to determine the nature of the find, evaluate its significance, and, if necessary, suggest preservation or mitigation measures.
- The haul road would be relocated near the corral on private lands to minimize potential impacts on the livestock operation.
- Long-term management of the Tucker Hill access road would be determined as a component of the Reclamation Plan.
- The project area would be monitored for noxious weed invasions throughout the life of the mine operation and reclamation activities.

MITIGATION MEASURES

- If Native American tribes or individuals express a desire for an archaeological monitor to help prevent unnecessary site disturbance, then the BLM would work with Atlas to review the need for, and possibly obtain an archaeological monitor.
- If the Native American tribes or individuals wish to use Tucker Hill for cultural activities, and if they can provide specific periods when they would like to use the area along with sufficient advance notice, the BLM would work with the mining company to avoid blasting on those days.
- If Native American tribes or individuals wish the BLM to pursue acquisition of legal access to the site (via an easement across private lands on an existing private road), BLM will initiate an easement acquisition, but cannot guarantee the outcome of that process.
- If visual impacts associated with the highwall of the quarry results in a sharp color contrast with the surrounding vegetation, consideration will be given to using a varnish or staining material to reduce the visual impacts.
- The seed source to be used for final reclamation would be certified weed free and approved by the BLM prior to the seeding operation. A monitoring program would be established for noxious weed invasion which would include inventory every year during the life of the project and for three years after closure of the project. If noxious weeds are found, the preferred treatment would be physical or manual extermination with selective chemical treatment as the least preferred method of eradication. This would take place in accordance with Environmental Assessment #OR-013-93-03.
- Fugitive dust emissions at the processing plant would be controlled by water sprays, cyclones and a baghouse.

CHAPTER III ERRATA

This chapter presents specific modifications and corrections to the Tucker Hill Perlite Project DEIS. These corrections and modifications were made in response to substantive comments received during the public comment period. Text modifications are highlighted in italics. The source comment letters and agency responses are included in Chapter IV.

Page iv, List of Figures, Line 6 is modified as follows:

Insert a space between the colon and Alternative C.

Page S-1, Summary, 2nd paragraph, 4th and 5th sentences are revised as follows:

“Atlas proposed to operate the quarry for 10 years, and this analysis is based on the *projected* effects of a 10-year operation. Any extension beyond 10 years, *or any acceleration of the operation which would result in reaching these projected effects prior to 10 years*, would require a modification...”

See also page S-1, Proposal section, of this FEIS.

Page S-5, Alternative D - (No Action). Delete section and replace with the following:

“This alternative is described as no project, or no perlite quarry. Current management provided by the High Desert Management Plan would continue. The current disturbance from previous exploration would be rehabilitated. *This alternative also assumes that exploration activity would continue.*

“When a valid mining claim is located on land open to mineral entry, the BLM’s discretion to approve a properly submitted mining plan is limited to requiring the claimant/operator prevent unnecessary or undue degradation of the resource. Unnecessary or undue degradation, as defined under 43 CFR Part 3809, means disturbance greater than would normally result when a mining activity is being accomplished by a prudent operator in usual, customary, and proficient operations of similar character and taking into consideration the effects of operations on other resources and land uses, including those resources and uses outside the area of operations. Therefore, the No Action alternative would not be a viable option if the mining plan or a modified version of the mining plan prevents unnecessary or undue degradation. Because of this, the No Action alternative is included only as a baseline for comparison of environmental impacts of the other alternatives.”

See also page S-4, Alternative D section, of this FEIS.

Page S-7, Archaeological Resources, Alternative A, revise the impacts as follows:

“Potential physical impact to 14 cultural sites including two stacked stone features. No physical impact to known burial sites, petroglyphs, petrographs, caves or rock shelters.”

See also Page S-6, Table S-1, Archaeological Resources section, of this FEIS.

Page 2, Purpose and Need, paragraph 3, add the following to the last sentence on page 2.

“Based on testing conducted in 1982 and 1983 by the Colorado School of Mines Research Institute and in 1994 by Wyant Machinery Company, Inc. and the New Mexico Bureau of Mines and Minerals Resources, test evaluations of bulk samples indicate the Tucker Hill perlite is of the universal variety suitable for a wide variety of expanded perlite products, and that it performs as well as, or better than, other perlite ores currently being processed (Wilson and Emmons, 1984; Atlas Perlite, Inc., 1994).”

See also page S-2, Purpose and Need for Project, paragraph 2, of this FEIS.

Page 14, Quarry Development, paragraph 1 has been modified as follows:

“The holes would be loaded with a blasting agent (ANFO, a mixture of ammonium nitrate and fuel oil) and blasted in accordance with regulations of the federal Mine Safety and Health Administration. *The ANFO would be brought on-site immediately prior to the bi-annual blasting periods and would be stored in sealed containers.*

“Typically, ANFO-blasting at dry sites results in nearly complete combustion, although a small amount of residual nitrate may remain in the blasted rock. At mine sites with wet climates and pristine waters, the residual nitrate may result in a small but measurable impact if the blasted rock is allowed to contact surface or ground waters. However, these conditions do not exist at Tucker Hill.”

See also page 3, Quarry Development section, of this FEIS.

Page 17, Reclamation Plan, paragraph 1, has been revised as follows:

“The Reclamation Plan will be developed in accordance with BLM Handbook 3042-1, “Solid Minerals Reclamation Handbook.” Details of the Reclamation Plan will be monitored and administered by the DOGAMI as well as the BLM. Design and construction of the project facilities would be conducted in a manner which prevents unnecessary or undue degradation of the environment.”

See also page 6, Reclamation Plan section, of this FEIS.

Page 18, Reclamation of Waste Rock Dump, paragraph 4, sentence 3 has been revised as follows:

“The reclamation of the waste rock dump would commence at the end of the operational period of the project. Dump top surfaces would be scarified to decrease erosion potential and facilitate revegetation. Seed bed preparation and seeding would *usually* take place during the fall season *or when appropriate*. Seedings would be timed to optimize existing and anticipated growth medium moisture for maximum germination and would be timed in accordance with natural phenology. Seeds of native plants would be free of noxious weed seeds and would be obtained from commercial sources or from a local native seed bank created in cooperation with the BLM. *Revegetation planning would be coordinated by Atlas and the BLM.*”

Pages 19 and 20, Drainage and Sediment Control, paragraph 3 is modified as follows:

“Upon reclamation, the Tucker Hill quarry would remain as a potential impoundment area. However, no groundwater would be ponded, as demonstrated by test drilling, to depths below the planned quarry bottom. The small amounts of runoff entering the quarry from up-gradient areas and the runoff from the quarry walls themselves would rapidly evaporate and/or infiltrate through the porous rock so standing water would not be expected. *Technically, during operation the quarry would be a topographic depression and all precipitation falling onto the quarry surface area would be contained on-site. Construction by this method would help control potential erosion from site run-off. Because the quarry is located on the top of Tucker Hill, no watershed exists up-gradient of the quarry, and only the precipitation directly falling onto the quarry area could be impounded. However, the site is arid, annual evaporation exceeds precipitation, and the perlite is fractured. These factors would lead to rapid infiltration or evaporation of precipitation. Consequently, it is highly unlikely that any water would be impounded.*”

Page 20, Drainage and Sediment Control, paragraph 1, replace the second to the last sentence as follows:

“...standing water for a brief period. *Three analytical testing procedures performed on the Tucker Hill perlite by the New Mexico BMMR (total metals [acid soluble], leachable metals [TCLP], and acid/base accounting) indicate that the ore contains low levels of metals, and that the metals tested would not be mobilized in the environment. The test for acid-base...*”

See also page 8, paragraph 2, of this FEIS.

Page 20, Revegetation, paragraph 1 of the DEIS has been revised as follows:

“The revegetation methods described at this time are generally based on common industry practices. Further refinement is anticipated as site specific results are derived from future test plot and seed bank programs. A seed bank would be obtained from an off-site test plot seeded from native plants growing on the Tucker Hill formation.”

See also page 9, Revegetation section, of this FEIS.

Page 21, Reclamation of Quarry, paragraph 1 has been modified as follows:

“The quarry walls would be left with overall slopes of approximately 22 degrees with benches approximately 10-12 feet vertical by approximately 25 feet horizontal. This provides a very stable final slope.”

See also page 10, Reclamation of Quarry section, of this FEIS.

Pages 23 and 24, Processing Site, Paragraph 1 has been modified as follows:

“The proposed mine and processing facility would be required to operate in accordance with all applicable Federal and State environmental/safety laws and regulations including OSHA and MSHA safety regulations.”

See also page 11, Processing Site section, of this FEIS.

Page 31, Alternative D - No Action Alternative. Delete entire section and replace with the following:

“This alternative is described as no project, or no perlite quarry. Current management provided by the High Desert Management Plan would continue. The current disturbance from previous exploration would be rehabilitated. This alternative also assumes that exploration activity would continue.

“When a valid mining claim is located on land open to mineral entry, the BLM’s discretion to approve a properly submitted mining plan is limited to requiring the claimant/operator prevent unnecessary or undue degradation of the resource. Unnecessary or undue degradation, as defined under 43 CFR Part 3809, means disturbance greater than would normally result when a mining activity is being accomplished by a prudent operator in usual, customary, and proficient operations of similar character and taking into consideration the effects of operations on other resources and land uses, including those resources and uses

outside the area of operations. Therefore, the No Action alternative would not be a viable option if the mining plan or a modified version of the mining plan prevents unnecessary or undue degradation. Because of this, the No Action alternative is included only as a baseline for comparison of environmental impacts of the other alternatives."

Page 32, Mitigation Measures Specific to Alternatives A, B, and C, has been modified by changing the title of the section as follows:

"Project Design Features Specific to Alternatives A, B, and C"

Page 39, paragraph 5 has been revised as follows:

"There was no evidence gathered that would indicate current or recent use of Tucker Hill by Native Americans. However, this lack of use is explained by pointing out the general prohibition/prejudice towards Native Americans using public lands. The Native Americans' belief that they were not allowed to use public lands stems from the doctrine of keeping the Indians on the reservations which were created for them in the early years. Some tribal members indicate that they have used Tucker Hill along with their parents for gathering during this century."

Page 39, paragraph 6, Line 4 is modified as follows:

"While some of the stone features on the formation have been assessed by the consulting archeologist as hunting related, these cannot be ruled out as also being religious."

Page 54, paragraph 1 is modified as follows:

"Some of the plants located on Tucker Hill occur only within the proposed quarry site, while others are scattered through the formation. However, there is no evidence that any of these plants has a limited range, or that Tucker Hill is a single source for these plants."

Page 56, paragraph 1, is modified as follows:

"Symphoricarpos longiflorus (long-flowered snowberry) has been located on the south side of Tucker Hill, 1,200 feet south of the existing access road. The species is commonly associated with pinyon-juniper woodlands and limestone slopes. Twenty-four plants of the species were found with scattered, sparse juniper (no pinyon), at an elevation of approximately 4,950 feet which would put it at the lower edge of its habitat range (4,500 to 7,000 feet). Symphoricarpos longiflorus is an Oregon Natural Heritage Program List 2 species (Threatened or Endangered in Oregon, more common or stable elsewhere), and

therefore a Bureau Assessment species. Long-flowered snowberry occurs in two other locations on the Lakeview District; however, it is more prevalent south to California and east to Texas."

Page 56, paragraph 2, last sentence is modified as follows:

Insert parenthetical brackets around "*(Mediterranean sage)*"

Page 73, paragraph 2 has been modified by adding an additional sentence:

"The Tribes are greatly concerned with the impact on visual resources. They have stated that removing large amounts of rock off the peak at Tucker Hill would negatively impact the spiritual nature and beauty of the site."

Page 75, insert the following four sites and revise list lettering appropriately:

- "c) Site KEC 32-12 (Sparse Lithic Scatter) - Testing and possible mitigation for the entire site.*
- d) Site KEC 32-13 (Sparse Lithic Scatter) - Testing and possible mitigation for the entire site.*
- j) Site KEC 32-31 (Sparse Lithic Scatter) - Testing and possible mitigation for the entire site.*
- l) Site KEC 32-33 (Sparse Lithic Scatter) - Testing and possible mitigation for the entire site."*

Page 75, paragraph 1, sentence 7 is modified as follows:

"The presence of the quarry and operations personnel along with the potential for increased public access could increase the potential for theft and destruction of cultural resources."

Page 77, Soils, paragraph 4 is modified as follows:

"Stockpiling of the top layers of the existing soils could aid in reclamation success; however, soils over much of the disturbed areas are quite shallow. The BLM has reevaluated the feasibility/desirability of importing topsoil for reclamation and has decided not to require this as it would increase the risk of noxious weed invasion and would cause additional disturbance/impacts at a borrow site. Tucker Hill soils have very little profile development

and contain large amounts of rock. Solid rock is very close to the surface. What growth medium is available would be spread on the site. Some areas such as the highwalls would simply not be topsoiled.”

Page 78, Threatened, Endangered and Sensitive Plant Species, revise section as follows:

“No known threatened, endangered or sensitive plant species would be affected by the project. The sensitive snowberry population is located 1/4 mile from the project impact area and would not be affected; nor would any other populations of Symphoricarpos longiflorus be affected.”

Page 83, paragraph 1, sentence 2 is modified as follows:

Eliminate the comma prior to “July” to improve clarity.

Page 85, Groundwater and Water Quality, add the following to the DEIS after the paragraph 1:

“Because of the aridity and depth to groundwater at the Tucker Hill site and because the ore would be removed from the site for processing, no environmental impacts from the blasting agents would be anticipated.”

Page 85, Groundwater and Water Quality, revise final parenthetical sentence as follows:

“(See Appendix V for an analysis of the material collected from Tucker Hill.)”

Page 87, Health and Safety, paragraph 1, add the statement:

“All activities at both the quarry site and the processing facility would operate in compliance with all applicable Federal and State environmental laws and regulations including OSHA and MSHA safety regulations.”

Page 89, Paragraph 3, Visual Resources, sentence 2 has been modified as follows:

“The gravel pit location for the waste rock material is already disturbed and the placement of the waste rock in the gravel pit would not change the existing condition of the gravel pit.”

Page 92, paragraph 1, sentence 1 is modified as follows:

Change “know” to “known”.

Page 93, paragraph 2, is modified as follows:

“There are no other mines in the Chewaucan River drainage other than sand and gravel operations in the area, *including the gravel pit at the base of the formation.*”

Page 93, paragraph 3, is modified as follows:

“If the project were to continue beyond the projected ten year life, the cumulative impacts correspondingly on the resources described below would continue and increase. The greatest impact or benefits would be on values identified by some of the Native Americans, visual impacts, archeological values and economic benefits. *An expanded project may also have an impact on the sensitive snowberry plant population.* These potential impacts would be addressed in a future environmental document, as required by NEPA and BLM guidelines.”

Page 95, Paragraph 2 of the DEIS has been revised as follows:

“The cumulative effects of the project on the economics and unemployment rates are important due to the high unemployment rates in Lake County and sluggish economy since the reduction in the timber industry. In light of recent job losses within the county, the additional jobs (12 direct and 6 indirect), along with the additional income, taxes, and employment diversity provided by the mine, *is considered important* to Lake County.”

Page 96, Native American Concerns, is modified as follows: Add 2nd and 3rd paragraphs as follows:

“If Native American tribes or individuals wish to use Tucker Hill for cultural activities and if they can provide specific periods when they would like to use the area along with sufficient advance notice, the BLM will work with the mining company to avoid blasting on those days.

“If Native American tribes or individuals wish the BLM to pursue acquisition of legal access to the site (via an easement across private land on an existing private road), BLM will initiate easement acquisition, but cannot guarantee the outcome of that process. This would allow vehicle access by Native Americans and also by the general public. Greater use of public access could lead to further destruction of other sites in the area due to looting/vandalism.”

Page 96, Cultural Resources is modified as follows:

“In the event that previously undiscovered cultural resources are encountered during construction of the proposed projects, all such activities would cease and the District

Manager of the Lakeview District BLM would be notified immediately. *If the Native Americans express a desire for an archaeological monitor to help prevent unnecessary site disturbance, then the BLM will work with Atlas to review the need for and possibly obtain an archaeological monitor.*"

Chapter 7, Bibliography is modified by adding the following references:

"Botts, S.D. 1992. Reclamation of the Jamestown Mine, Tuolumne, California. Pp. 57-70 in Conf. Proc.: Successful Reclamation: What Works. Reno, Nevada.

Frolli, T. 1992. Showcase examples of Mining Reclamation on the Austin Ranger District of Central Nevada. Pp. 53-55 in Conf. Proc.: Successful Reclamation: What Works. Reno, Nevada.

Golder Associates Inc. 1994. Technical Memorandum. Steep Slope Reclamation, Gold Bar Mine, Nevada. Prepared for Atlas Corporation.

Klco, K.S. 1990. An Overview of Mine Land Reclamation in the Sangre de Cristo Mountains, Fremont County, Colorado, 1977 to present. Pp. 92-97 in W.R. Keammerer and J. Todd, Eds. Proc.: High Altitude Revegetation Workshop No. 9. Information Series No. 63, Water Resources Inst., Colorado State University, Fort Collins, Colorado.

Mason, B. and C.B. Moore. 1982. Principles of Geochemistry. 4th ed. Wiley. New York.

Wilson, J.L. and D.L. Emmons. 1984. Tucker Hill perlite deposit, Lake County, Oregon. Society of Mining Engineers, nonmeeting paper 84-232, Manuscript October 1984. 8 p."

Appendix V, Test Data from the New Mexico Bureau of Mines and Mineral Resources, has been modified as shown in the attached appendix.

Tribal Resolutions have been included in the FEIS as Appendix VI.

Figure 7, Proposed Archaeological District, has been modified by adding a footnote to the figure that states that any BLM Proposed Archaeological District would include public lands only. This revised figure is included at the end of this document.

CHAPTER IV COMMENTS AND RESPONSES

This chapter includes copies of all public comments received in response to the Tucker Hill Perlite Quarry Project DEIS. The BLM's responses to substantive comments are provided adjacent to the reproduced comment letters. A total of 20 letters were received in response to the DEIS.

LETTER NO. 1



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

RECEIVED
OCT 23 1995
LAKEVIEW, OREGON

October 13, 1995

Reply in WD 126

Scott R. Florence
Acting District Manager
Bureau of Land Management
Lakeview District Office
P.O. Box 151
Lakeview, Oregon 97630

Dear Mr. Florence:

In accordance with our responsibilities under the National Environmental Policy Act and Section 109 of the Clean Air Act, the Environmental Protection Agency has reviewed the draft Environmental Impact Statement (draft EIS) for the Atlas Perlite, Inc. Tucker Hill Perlite Project. The draft EIS analyzes four alternatives (including the No Action Alternative) for mining perlite approximately 35 miles northeast of Lakeview, Oregon.

Our review of this document has revealed concerns regarding tribal trust issues.

President Clinton's memorandum of April 29, 1994, describes government-to-government relations with native American tribal governments. The United States has a unique relationship with tribal governments which requires that federal government plans, projects, programs and activities assess impacts on tribal trust resources.

Trust resources are located within the exterior boundaries of reservations and outside the reservation in Usual and Accustomed fishing and hunting areas. According to the President's memorandum, agencies shall assess all impacts to tribal trust resources and include those impacts in the agencies' environmental documents. Each agency shall consult to the greatest extent practicable and to the extent permitted by law, with tribal governments prior to taking actions that affect federally-recognized tribal governments. Due to our concern regarding direct impacts to this site, which is considered a sacred location by the Klamath and Northern Paiute tribes we have rated the draft EIS EIC-2 (Environmental Concerns -- Insufficient Information).

We believe that the draft EIS has adequately disclosed the potential impacts to the site, however, we would like to see additional mitigation proposed for the site in the event that the proposed action is implemented. One example of such mitigation could include "shut down"

RESPONSE 1

The BLM is aware of its trust responsibilities under existing treaties, laws, regulations, and executive orders. The BLM has assessed the potential impacts to tribal trust resources within the Draft and Final EIS documents. These tribal concerns were the primary reason why the BLM chose to prepare an EIS rather than an EA. The BLM has consulted with all interested tribes. This process began prior to public scoping and continues to the present. Documentation of this consultation is contained within the project file.

RESPONSE 2

The BLM acknowledges that not all potential impacts to resources of tribal concern can be avoided or adequately mitigated. The BLM feels that adequate mitigation has already been proposed and analyzed within the EIS for those resources that can be mitigated. The document also discloses which resources cannot be mitigated, as is required by NEPA. As mentioned above, the BLM has been consulting with the tribes to try to mitigate, to the extent possible, resources of concern. It should also be noted that some tribes/tribal representatives find mitigation, in principle, to be totally unacceptable compared to the no action alternative.

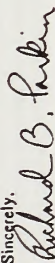
[1]

[2]

days. This means that the tribes and the proponent would agree that for certain specified significant days during the year Perlite, Inc. would cease mining operations so the tribes could participate in traditional activities on Tucker Hill without the disturbance of noise or other people. We encourage the BLM to work with the affected tribes in developing mitigation measures and the final EIS should present the proposed mitigation measures in the alternatives analysis.

This rating and a summary of our comments will be published in the *Federal Register*. A copy of our rating system is enclosed. Thank you for the opportunity to review this draft EIS. Please contact John Dregor at (206) 553-1984 if you have any questions about our comments.

Sincerely,



Richard D. Parkin, Chief
Geographic Implementation Unit
Office of Ecosystems and Communities

enclosure

LETTER NO. 2

THE NATIVE PLANT SOCIETY OF OREGON

RECEIVED
OCT 23 1995
...VIEW, B.L.M.
Dedicated to the enjoyment, conservation,
and study of Oregon's native vegetation



October 19, 1995

Scott Florence
Lakeview BLM
POB 151
Lakeview, OR 97630

Dear Mr. Florence

The NPSO wishes to respond to the DEIS for the Tucker Hill Perlite Strip Mine by Atlas Mining. We have serious concerns regarding the impacts of the proposed mine.

EIS Contracting

- [3] NPSO has previously expressed our concern for the process of allowing the mining corporation to contract out the EIS. We feel that the companies chosen seem to do this work for the industry on a frequent basis and are favorable to the mining industry. They are not and cannot be objective. They know where their paycheck comes from. We continue to oppose this practice.

Sensitive Plants

- [4] Our experience in Central Oregon is that one or two surveys over a growing season is not adequate to clear a project area. Multiple surveys over a variety of years is necessary. This was not done. We feel that the snowberry plants should be protected from impacts as the mine develops. Does the District have a Habitat Conservation Plan for *Symphoricarpos longiflorus*? If not, how can you adequately manage impacts to populations of this species?

Native Vegetation

- [5] The soils in the area are thin and poorly developed. It will be difficult to save this soil and replace it after disturbance. We ask for revegetation with only species native to the site. This should be from seeds collected at the site and grown specifically for replanting. Grasses from seed sources outside the area are exotic. We ask for full contouring and backfilling of all excavations. Leaving waste dumps uncontoured and unvegetated invites invasion by exotics.

Exotic Plant Introduction

- [6] We disagree strongly with your assertion that the "potential for the introduction of noxious weeds is low." It is actually extremely high. With the likelihood of over 200 acres of land being eventually impacted, noxious weeds will be a major problem. You have inadequately addressed this issue.

RESPONSE 3

Though the BLM understands the NPSO's concern over third-party contracted NEPA analyses, it is important to note that the responsibility for an adequate NEPA document rests entirely with the BLM, not the applicant nor its contractor. The contractor took data/information supplied by the BLM, recent survey information provided by other contracted sources, and information provided by the applicant and prepared this EIS in accordance with BLM, Department of Interior, and Council on Environmental Quality standards. Further, the BLM staff specialists reviewed and provided substantial input into the preparation of this document.

RESPONSE 4

Multiple year surveys have been done. The BLM conducted plant surveys in the area in 1991 and 1992. The contractor and the BLM conducted separate surveys in 1995.

The BLM has not yet prepared a habitat conservation plan for *Symphoricarpos longiflorus*. It is currently a low priority. However, existing laws and regulations require protection with or without a habitat conservation plan.

RESPONSE 5

The list of species recommended for site revegetation (Table 2-4, page 22 of the Draft EIS) are native to the area. Atlas has agreed to assist the BLM in cultivation of a seed bank test plot to grow native seed from Tucker Hill plants for later use in site reclamation (page 20-21 of Draft EIS). A commercial seed source from within the region would be used to supply seed only if an adequate seed supply cannot be provided through test plot cultivation. The discussions on the last paragraph of page 18 and on page 20 of the Draft EIS have been modified to reflect this (see pages 17 and 18 of Chapter III of this FEIS).

Full contouring and backfilling of all excavated areas was considered as a mitigation feature by the BLM Interdisciplinary (ID) Team during development of the preferred alternative. There are several problems with this measure. Complete backfilling of the quarry at the end of the 10-year plan of operation is not possible for two reasons. A large volume of perlite material is expected to be mined and removed permanently from the site over the life of the quarry. Therefore, any fill used for backfill would have to come from somewhere else. This would involve additional adverse environmental impacts which could very well equal those associated with the quarry.

The ID Team considered requiring sidewall contouring, but though more pleasing visually, it would impact a relatively larger area than allowing the highwalls to remain uncontroled. This is because as the sidewall is contoured to a more gentle slope, a larger total "footprint" of land beyond the quarry is disturbed. Contouring to achieve a 3:1 slope, for instance, would impact additional land surrounding the quarry. The preferred alternative (C) does not require a permanent waste rock pile. The ID Team suggested this alternative as means of reducing the total surface disturbance of the project (and the subsequent need for site restoration) as the waste rock (overburden) would be hauled off-site to the already disturbed county quarry site where it will be put to beneficial use.

RESPONSE 6

Before conducting any surface disturbing activity, the BLM is required to conduct a noxious weed risk assessment. As stated in the EIS text, this assessment was conducted in accordance with BLM Handbook 9015. The results of this assessment indicated the risk of future weed invasion is low. This assessment is contained in the project file and is available for review. The commenter has failed to present any evidence indicating why he feels the analysis is inadequate or the risk of weed invasion would be high.

Cultural Plants

[7] We share the tribes' concerns about destruction of plants that were important to Native Americans. This project is in an area of ceded lands and your analysis is insensitive to this at best and violates treaties and laws at worst. We ask that cultural plants not be impacted. The entire process seems to be a snub to the Indian tribes. There are important values to Native Americans at this site. The only value your analysis seems to assign to it is an economic one.

You acknowledge the cultural importance of the site to Indians and then in the proposed plan, essentially outline its destruction. The world (and Lake County) will survive if this perlite mine isn't built. The nearby fiasco at Land's End only serves to underline a lack of concern for peoples who have lived in the area for over 10,000 years. We ask for respect for these cultural values.

Bonding

[8] Your bonding requirements are totally inadequate. Atlas has a miserable environmental record in every state that it has operated in. You should require full bonding for a full reclamation job.

Please keep us involved with and informed of developments regarding this proposed project.

Sincerely,

Stuart G. Garrett

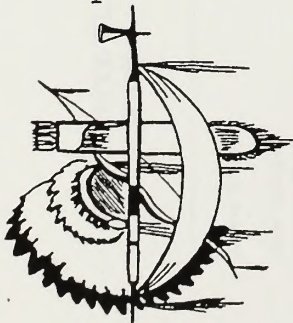
Stuart G. Garrett, MD
Conservation Chair

RESPONSE 7

The BLM recognizes the cultural importance of certain plants within the project area to Native Americans, as is required by law. This analysis is documented in the EIS text. However, the BLM must also recognize the right of a mining applicant to propose mining of claims it legally holds under the 1872 Mining Law. There is a clear conflict between the mandates of the various laws under which the BLM must operate.

RESPONSE 8

The BLM will work with the Oregon Department of Geology and Mineral Industries to ensure that an adequate and reasonable reclamation bond is provided.



Burns Paiute Tribe

HC-71 100 PASIGO STREET
BURNS, OREGON 97720
PHONE (503) 573-2088
FAX (503) 573-2323

RECEIVED

OCT 25 1995

LAKEVIEW, OR

10/23/95

Ed Singleton
District Manager
Bureau of Land Management
PO Box 151
Lakeview, OR 97630

Mr. Singleton

Enclosed are comments regarding the Draft Environmental Impact Statement: Allis Perlite, Inc., Tucker Hill Perlite Project

"Summary" Discussion: There is concern that the project will indeed extend beyond the 10 year mining period. An extension of the mining actions would greatly impact the spiritual nature of Tucker Hill, whether it is during the first 10 years of planned mining or a second decade of impact. The statement in this section ("although Tucker Hill contains an extensive supply of perlite, the demand for the product is limited and is not expected to expand significantly") implies that there is no need for another perlite mining venture in the United States. If the demand is limited, why mine for more? There is no evidence presented indicating a need for a perlite source in the Western United States since the West is being adequately supplied by sources in New Mexico.

[10] Alternative D (No Action) should be under consideration by your agency since Tucker Hill is a religious site for Native Americans in the region.

[11] Withdrawal of Tucker Hill from mineral entry needs to be included in the use plan for the district. This site is important culturally and spiritually to the Burns Paiute and needs to be preserved. The practice of disturbing and destroying cultural/archaeological sites cannot continue unchecked in this region. Important sites, such as Tucker Hill, must be preserved for future generations.

RESPONSE 9

Mining beyond the 10-year period covered by this EIS cannot be accurately predicted at this time. However, for the purposes of cumulative impact analysis, it is considered to be a reasonably foreseeable future action which is addressed in the document, as is required by NEPA (see pages 93-95 of the DEIS). As stated on page 1 of the DEIS, should the applicant choose to mine beyond 10 years a new plan of operations and NEPA document would need to be prepared and approved by the BLM.

Based on subsequent discussions with the tribal council, the purpose and need section of the summary has been revised to note that the projected demand is expected to be static over time, but the Tucker Hill deposit, because of its closer proximity to northwest and Pacific Rim markets would have a competitive advantage due to lower shipping/fuel costs. The Purpose and Need statement in this FEIS was revised in accordance with the comment (see page S-1 of this FEIS).

RESPONSE 10

The No Action Alternative is considered within the environmental analysis presented in this EIS as required by NEPA. However, as noted in the text (pages S-5 and 31 of the DEIS), under the 1872 Mining Law the BLM feels it has no discretion to adopt this alternative as the agency preferred alternative. The BLM recognizes the conflict between the mandates of existing laws requiring the protection of Native American religious sites/practices.

RESPONSE 11

As noted in the text (page 4 of the DEIS), the current land use plan specifically recommended (M-2.5) and approved keeping the Tucker Hill area open to mineral location. To consider withdrawing this area from mineral location requires going through a lengthy plan amendment process. The resulting plan amendment recommending withdrawal (if approved) could prevent location of new claims, but would be subject to valid, existing rights (i.e., mining claims). That is, it could not prevent the proposed mining of an existing, valid mining claim(s). Thus, this alternative would do little to protect the existing cultural/religious resource values of the area. This is why this alternative was dropped from further consideration. However, this will be considered along with other relevant issues when the Lakeview Resource Area prepares a resource management plan (RMP), which is currently expected to start in Fiscal Year 1998 as a means of preventing additional mining due to location of new claims.

RESPONSE 12

The designation of Tucker Hill as a cultural ACEC was also considered by the ID Team. This alternative would also require going through a lengthy plan amendment process. As explained in the text (pages S-6 and 34 of the DEIS), though this designation would formally recognize the cultural/religious resource values of the area, it would not, in and of itself, preclude mineral development or provide any additional protection to those resources above those already provided by existing laws, regulations, executive orders, or policies. Though such a special designation does require that special management actions be implemented, there is little that can be done to completely protect the area from mineral development. As noted in comment response #11, complete mineral withdrawal of the area would be ineffective in preventing mineral development. However, this will be considered when the Lakeview Resource Area prepares a resource management plan (RMP), which is currently expected to start in Fiscal Year 1998.

RESPONSE 13

As stated in paragraph 4 of Page 1 of the DEIS, the additional five years are requested and analyzed within the EIS to account for the likelihood of a stable demand/market for perlite beyond the first five years for which the applicant currently has supply contracts in hand, as well as prevent the need to prepare a new or amend the existing plan of operation/NEPA document after only 5 years. This also allows the BLM to more adequately consider and address the likelihood or extensiveness of long-term and cumulative impacts within the EIS. See also response to comment #9.

RESPONSE 14

Under the 1872 mining law, the BLM's discretion is limited to conditioning mining to prevent undue or unnecessary degradation. The potential for additional impacts beyond the initial 10-year mining scenario are analyzed, to the extent practical, and discussed under the cumulative impacts section (pages 93-95 of the DEIS). In addition, a new NEPA document would be required at that time which would address any potential additional cultural impacts to the area.

RESPONSE 15

Refer to comment responses 9 and 13.

RESPONSE 16

There is a recognized conflict between blasting, wildlife use, and cultural uses. The blasting window as currently defined in the document (see blasting schedule in Appendix IV of the DEIS) was only designed to mitigate potential wildlife impacts. However, the blasting schedule may need to be further refined to provide for cultural uses by Native Americans. If they can provide specific periods when they would like to use the area along with sufficient advance notice, the BLM will work with the mining company to avoid blasting on those days.

RESPONSE 17

Within the document, the BLM recognizes the connection of the formation to other culturally important areas in the basin. An analysis of the overall cultural landscape was done and found that while the formation is largely intact and part of this larger area, the bulk of the surrounding area has been highly modified and is not suitable for designation as a cultural landscape (page 44 of DEIS). This was the reason that the BLM completed a survey of the entire formation. In addition, an analysis of eligibility as a traditional cultural property (TCP) was also conducted. Even though current use was not demonstrated, the area was determined to qualify as a TCP (page 44 of DEIS).

RESPONSE 18

Consultation has shown that the area is sacred to the Burns Paiute as part of a larger area. The BLM has recognized that the project will have impacts to cultural values on Tucker Hill and to the larger area. It is also recognized that some of these impacts, spiritual values in particular, cannot be mitigated.

[12]

Tucker Hill should be designated as an area of critical environmental concern (ACEC). The designation of Tucker Hill as an ACEC would support and aid the use of the area by Native Americans. The Burns Paiute Tribe is interested in developing ACEC's throughout their aboriginal area.

[13] "Chapter 1 Introduction" Discussion: "Atlas anticipates securing contracts to provide n five year supply to markets in the northwest". There is no evidence presented that there is a demand for more perlite mining in the United States. If Atlas expects to secure contracts for 5 years, why a 10 year plan of operation?

[14] "If future demand increases beyond that projected over the next ten years, Atlas would intend their Plan of Operation and a new environmental analysis would be initiated". This statement is disturbing because it implies that the Bureau of Land Management has little control over the expansion of the mining activities in their district. Any increase in the mining activity area would further destroy the site.

[15] "The purpose of the Proposed Action is to develop and operate a perlite quarry operation to meet demands for products made from perlite in the northwest". There is no evidence presented indicating that there is a need for a perlite mine in the Northwest, since the mines in New Mexico are already supplying perlite to the region.

[16] "Chapter 2 Alternatives Including the Proposed Action" Discussion: "The bulk of the quarry operation would take place during two campaigns per year (early summer and late fall, to avoid conflicts with wildlife)... Early summer and fall are the times when Native Americans are harvesting cultural plants. The blasting would greatly impact any use of the site for cultural plants

[17] "Should any additional archeological discoveries be encountered during ground disturbing activities, all such activities shall halt within a 50 meter radius of the discovery, and the BLM shall be connected to determine the nature of the find, evaluate its significance, and, if necessary, suggest preservation or mitigation measures". Tucker Hill is significant to the Burns Paiute Tribe and must be considered as an entire site - not an area made up of many isolated small sites. Tucker Hill is one large site associated with a wide variety of activities, including, but not limited to, spiritual, hunting, gathering, and tool manufacturing.

[18] "Chapter 3 Affected Environment" Discussion: "Tucker Hill is a relatively small feature (approximately 1,200 acres)... Tucker Hill is one part of the Lake Abert/Cheavac River drainage area and cannot be considered separately. It is a significant site and is considered a landmark. Any activities on Tucker Hill will be noticeable and irrefutable.

The Burns Paiute Tribe considers Tucker Hill to be significant. The statement "for the Northern Paiutes, the specific features of their home territory have a sacred quality. Certain numerous places within the community's territory, for example, mountains, caves, or springs, served as a source of spiritual power which could be obtained through the spirit quest" apply applies to the Burns Paiute. Any actions on Tucker Hill would affect the spiritual nature of

RESPONSE 19

The text of the document has been revised to note Native American use during this century (Chapter III, page 19 of the FEIS). This area has been public land since at least the late 1800's. However, access on the existing road to the top of the formation crosses some private lands. The BLM has no control over access via that road. See also response to comment #25.

RESPONSE 20

See comment response #17.

RESPONSE 21

Preparing and processing an archaeological district nomination is a time-consuming and expensive process. This designation would not necessarily preclude mineral or other types of development. However, the BLM recognizes its potential as an archaeological district (page 42 of the DEIS) and will manage the area as such, pending formal nomination (page 42 of the DEIS).

RESPONSE 22

As noted in comment response #17, the integrity of the Tucker Hill formation is largely intact, while the larger landscape has been highly altered. The cultural landscape analysis was discussed in the document, during the consultation process, and in Winthrop's report. The BLM recognizes that Tucker Hill is an important feature within the larger Chewaucan basin landscape and is eligible for the National Register as a TCP.

RESPONSE 23

Comment noted. Aesthetic impacts are addressed in the visual resource impact section. The BLM recognizes that the proposed mining activity would have a negative religious/spiritual impact related to visual impact which cannot be mitigated. Text has been added to the cultural impact section to clarify this (Chapter III, page 20 of the FEIS).

RESPONSE 24

As stated in the description of alternatives (A, B, and the preferred alternative C), the site would be revegetated with native species (see table 2-4, page 22 of Draft EIS). This has also been clarified in Chapter III, page 18 of the FEIS.

RESPONSE 25

This issue was discussed with the tribal council. The BLM could pursue (but cannot guarantee) acquisition of legal access to the site (via an easement across private land on an existing private road) as part of the project. This would allow vehicle access by Native Americans and also by the general public. Greater ease of public access could lead to further destruction of other sites in the area due to looting/vandalism. A better alternative may be for the tribe to negotiate access directly with the private landowner. See also response to comment #30.

RESPONSE 26

The timing of blasting was specifically designed to avoid most impacts to nesting raptors in most years. However, not allowing blasting during this time frame during the first year of operation would prevent the mining company from producing any material during most of 1996. The BLM wildlife biologist felt that a one-time blasting operation, during the start up year only, of short time frame, and after field inspection has occurred to determine if any raptors are actually using the area, would cause minimal impacts to raptors.

the site.

[19] "There was no evidence gathered that would indicate current or recent use of Tucker Hill by Native Americans. However, this lack of use is explained by pointing out the general prohibition/prejudice towards Native Americans using public lands". The Native Americans in the area were not allowed on Tucker Hill during most of this century. Some tribal members indicate that they have used Tucker Hill along with their parents for gathering during this century. Now that the land is public, the Burns Paiute want access to the site to continue cultural activities.

[20] "Numerous other sites have been recorded in the vicinity of the Chewaucan Marsh, and it seems that the sites at Tucker Hill are an important part of this system of aboriginal settlement patterns and subsistence activities". Tucker Hill is an important site within the larger area of the Chewaucan River drainage, Abert Lake, and Abert Rim.

[21] The Burns Paiute Tribe is interested in pursuing the nomination of Tucker Hill as an archeological district. It is important to pursue this designation at this time, instead of waiting until "some future time".

[22] "The purpose of designating Cultural Landscapes is to identify areas of historical or cultural importance (i.e. Native American use area) where the integrity of the existing landscape still provides a visual picture of the important historic and cultural features". The Tribe considers Tucker Hill to fall within the cultural landscape designation. As stated in the EIS, the majority of Tucker Hill has gone untouched, so the integrity of the landscape is still present.

[23] The Tribe is greatly concerned with the impact on visual resources. Removing large amounts of rock off the peak at Tucker Hill will negatively impact the spiritual nature and beauty of the site.

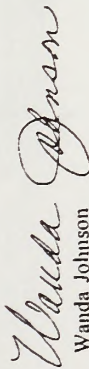
[24] "Chapter 4 Environmental Consequences" Discussion: "There would be short-term and long-term loss of plants in the area of the quarry". Every effort needs to be made to reintroduce native and cultural plants to the site - if the mining occurs.

[25] Foot access to Tucker Hill is unacceptable. The acceptable mode of transportation to the site is by motorized vehicle. Most tribal elders would not be able to walk to Tucker Hill, which means that the site would still be prohibited for tribal use.

[26] "Since the majority of the blasting would not occur during the raptor nesting season...with the exception of the start-up year, 1996...". The entire Chewaucan Marsh area, including Tucker Hill, is important habitat for raptors. Blasting activities must be avoided during any time of the year, including 1996, when it can impact raptors - if the mining occurs.

"The Tucker Hill area is a part of the larger Chewaucan River Basin that was historically important to Native Americans based on the archeology inventory and interviews with tribal members". Tucker Hill is still important to the Burns Paiute Tribe.

Sincerely,


Wanda Johnson
Tribal Chairperson

ljr

RESPONSE 27

Comment noted. The BLM is aware of the importance of this area to the Burns Paiute Tribe through comments provided in writing and in government-to-government consultation.

Wanda Johnson
Tribal Chairperson

P.O. Box 436
Chiloquin, Oregon 97624
Telephone (503) 783.2219
FAX (503) 783.2029
800-524-9787

Edwin J. Singleton
District Manager
Bureau Of Land Management
Lakeview District Office
P.O. Box 151 (1000 Ninth St.)
Lakeview, Oregon 97630

As you are aware, the Klamath Tribes have been reviewing the plan of operations for a proposed pebble mining operation on Tucker Hill. The Tucker Hill formation is well within the Klamath Tribes protected land base. We as Indian people have a responsibility to protect cultural sites from damage or disturbance. The Klamath Tribes have a policy that states, there will be no disturbance to cultural sites.

This area has been very important to the Tribes from the beginning of our creation. The Chewaucan Valley was a whole-istic living system that provided all the resources needed for the spiritual and subsistence needs of the Klamath, Modoc and Yahooskin people at one time. But the Tribes have been denied access to the resources, and this important area for a very long time during which the area has went through tremendous change.

[28] Agricultural, Cattle and Industrial Development: needs are being placed above the Native American cultural and spiritual site protection needs in this area, this is why it is so important to protect this area from further damage that the mining project will create. To ensure that the Tribe concerns are addressed we would

[29] request that your agency complete a Environmental Impact Statement.

[29] create. To ensure that the Tribes' concerns are addressed we would request that your agency complete an Environmental Impact Statement.

OCT 16 '95

[illegible]

See response to comment #10.

RESPONSE 29

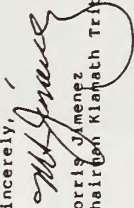
The BLM did choose to prepare an EIS due, in part, to these concerns.

Edwin J. Singleton
District Manager BLM

We feel that the mining operation will destroy not only artifacts and religious features but could also damage values associated with this sacred area.

[30] We also believe that this project will attract more illegal artifact collecting, which has gone on for many years without challenge. Artifacts and even human remains have been taken from this area by collectors. This is not acceptable to the Klamath Tribes. Therefore the Klamath Tribes oppose this project.

[31] The Klamath Tribes are very concerned and do not want another River's End Ranch incident to happen. If you have any questions or need further assistance please call Dino Herrera at the Klamath Tribes Natural Resource office.

Sincerely,

Morris J. Amenez
Chairman Klamath Tribes

HJ\dh

RESPONSE 30

The potential problem of illegal artifact collecting would be addressed in the mitigation plan. Several alternatives exist including, but not limited to conducting a complete surface collection of all sites in the area prior to start up of mining with periodic site re-examination or on-site patrolling of the area during mining operations by an archeological monitor (see Chapter III, pages 20, 22 and 23 of the FEIS).

RESPONSE 31

Though the BLM recognizes the relationship between the cultural values at Tucker Hill and sites located at River's End Ranch and elsewhere in the region, this specific mining proposal bears no direct relationship to the wetland restoration project at the River's End Ranch. The BLM intends to follow all applicable environmental laws and regulations, including cultural laws, during project planning and implementation stages. The survey work that has been conducted to date has been extensive. It is highly unlikely that unknown sites will be discovered during project implementation. Further, should an unknown site be discovered during implementation a process will be in place to keep site damage to a minimum pending evaluation. This should ensure that the problems which occurred during the River's End Ranch project are not repeated at Tucker Hill.

LETTER NO. 5

Nov. 15 1995

Dear Sir,
my husband and I think there
is good for the economy, it
would create more jobs for Lake
County residents. When on the
Ginsler industry is about to
crash, we need something to feel
in.

If it does in the right perspective
& leaned up right there should be
be my problem with it. you have
our support, sincerely,

Mrs. Mrs. Bob (Polly).



RESPONSE 32

Comments noted.

LETTER NO. 6

Yvonne June LeBarre
P. O. Box #10
Paisley, Oregon 97636
(503)943-3199

RECEIVED

November 16, 1995

NOV 20 1995

Mr. Tad Davis
BLM, Lakeview District
P. O. Box 151
Lakeview, Oregon 97630

Dear Mr. Davis:

I have some comments to make, to you, concerning the Tucker Hill Quarry project, and the EIS document. I have been a resident of Lake County since June 06 of 1991, and am a registered voter.

First, I would like to state that I am not ignorant of American Indian cultures and religions. I married into the Kiowa-Comanche/Kiowa-Apache tribes and lived in Oklahoma for twenty-one (21) years, where I danced in the Ft. Sill Apache Fire Dance (Dance to the 'Mountain Gods') in Anadarko, went to Pow-Wows, studied Shamanism, and, for a time, practiced the 'Medicine Path'.

In all the time that I have lived in Paisley, often travelling to Lakeview and back every day, I have never seen one Indian meditating up on Tucker Hill. There may be some 'teepee-rings' and a petroglyph there, but the real 'power-spot' of the area is in the 'Narrows' where lines of 'force' converge.

I support the Tucker Hill Quarry. We desperately need small industries in Lake County, especially 'outside' companies who will hire good, qualified people regardless of their lack of social/family affiliations. Whatever the private and individual religious practices of members of [34] the Paiute tribes of Klamath and Burns are, giving preference to pagan and occult beliefs over the needs of people living in Lake County is WRONG. We no longer condone the Pawnee's sacrificing virgins to the Morning Star, regardless of how 'sacred' the ceremony was. I would be very interested in exactly how many Paiute's give more than actual 'lip service' to their tribal religion. It seems more a case of 'sour grapes' than actual spirituality. Thank you for your time and attention to this letter.

Sincerely,

Yvonne June LeBarre
YVONNE JUNE LEBARRE

RESPONSE 33

As stated on page 39 of the Draft EIS, the issue of Native American use is not solely based on whether or not it is being used today. Use prior to this century is well documented by historic and archaeological record. Many Native Americans feel they have been precluded from using the site during this century due to lack of access. Use during the last century has been low, a fact which is confirmed by this comment. However, members of the Burns Paiute Tribe have stated their parents did use the area for gathering during this century (see Chapter III, page 19 of the FEIS). In addition, both the Klamath Tribes and Burns Paiute Tribe have expressed a desire to use this area in the future.

Under Federal law, BLM regulations and directives, what constitutes a Native American religious site is determined by the Native Americans with a direct lineal contact to the location(s) in question. In this instance it is the Burns Paiute tribe. The ethnographic record and archeological surveys support the idea that the area is of significance to the Northern Paiute.

RESPONSE 34

Comments noted. The Constitution and subsequent laws passed by Congress clearly specify that all persons have the right to practice their religion beliefs. Specific laws have been passed in the last several years which protect Native American religious beliefs/practices. The BLM, as a representative of the Federal government, is not allowed to question the issue of whether a particular religion is right or wrong. Tucker Hill lies within ceded tribal lands of the Northern Paiute and under existing treaty language and other laws, they have a recognized right to be involved in land use planning in this area equal to that of citizens living in Lake County.

LETTER NO. 7

RECEIVED
NOV 27 1995
LAKEVIEW, B.L.M.

TO WHOM IT MAY CONCERN:

I, Douglas M. Elder, would like to state that I am in favor of the proposed mining operation on Tucker Hill by the Atlas Perlite Corporation. It is my opinion that this operation would not be environmentally detrimental to that area. It would be an economic benefit to Lake County.

Since this area was the driveway for both cattle and horses by the Elder Ranch from Paisley to Valley Falls, I have been familiar with this land all my life. This route followed the old road from Paisley to Valley Falls.

For your information during the years of 1925 to 1944, I rode horseback over Tucker Hill at sometime in each month of the years.

There is no water in this area of Tucker Hill. I have never seen a Native American or Native American activity in this area.

Signed:

Douglas M. Elder
Douglas M. Elder

RESPONSE 35

Comments noted. See response to comment #33.

LETTER NO. 8

RECEIVED

NOV 28 1995

LAKEVIEW, B.L.M.

28800 Hilway St
Paleley OR 97636
November 26, 1995

Edwin J. Singleton
Bureau of Land Management
P O Box 151
Lakeview OR 97630

RE: Tucker Hill Perlite Project

We believe that the Tucker Hill Perlite Project should continue with Atlas Perlite, Inc. as the company doing the project.

[36] There are three alternatives in the method of mining the perlite in the Environmental Impact Statement. The plan that Atlas Perlite, Inc. prefers is the plan which should be implemented.

[37] No mitigation of any kind should be given to anyone at any time for any reason on the Tucker Hill Perlite project.

RESPONSE 36

Comments noted.

RESPONSE 37

The Council on Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act (NEPA) and other laws and regulations related to cultural resources/Native American uses require that any Federal agency performing or permitting a major Federal action (i.e., approving a mining plan of operation) shall mitigate significant impacts to the human environment, to the extent possible.

Sincerely,

Bob and Diane Elder

Bob and Diane Elder

LETTER NO. 9



TOWN OF LAKEVIEW

525 First Street North
Lakeview, Oregon 97630

"The Tallest Town In Oregon"

November 30, 1995

RECEIVED
DEC 1 1995

Bureau of Land Management
Lakeview District
P.O. Box 151
Lakeview, OR. 97630

Attention: Scott Flintence

Re: Tucker Hill Perillite Mining Project

Dear Sirs:

The Town Council of Lakeview, OR, at their regular meeting of November 28, 1995, discussed the perillite mining project at Tucker Hill and the processing planned at Lakeview. The DEIS has been reviewed by two of the council. We think that a very thorough job has been done with the DEIS, and everything necessary to protect any archaeological concerns has been addressed. There are few sites in Lake County that have not been used by Native Americans in the past 11,000 years. We cannot paralyze the county and its natural resources because of those who were here before.

Our country has been hurt economically in the last ten years by reductions in grazing and an almost complete shutdown of the sale of timber on federal lands. The Tucker Hill Project would be a small step forward for us in diversifying our economy.

The Town Council voted 4/0 to write this letter supporting the Tucker Hill Mining Project and Preferred Alternative C. Please let us know if we can do anything else to expedite the project implementation.

Yours truly,

Town Council
Town of Lakeview, OR.

Rod Harlan
Council President

RESPONSE 38

Comments noted. The BLM recognizes within the document that even though every attempt is made to protect or mitigate cultural and religious values at Tucker Hill, some, in particular religious values, cannot be mitigated. Existing Federal laws and regulations require the consideration of Native American cultural/religious values, as well as the needs/desired uses of local governments and citizens. The BLM does not have the option of simply ignoring other recognized needs/uses.

November 22, 1995

RECEIVED:

NOV 24 '95

Oregon

Scott R. Florence
Bureau of Land Management
Lakeview District
PO Box 151
Lakeview, OR 97630

RE: JD No. 12-0073, Tucker Hill Perlite Project

Dear Mr. Florence,

Thank you for providing a copy of the DEIS for the Tucker Hill project. DOGAMI has completed the internal review of the DEIS and has the following comments:

- [39] • DOGAMI fully supports alternative C in which waste rock is placed into the county gravel removal pile along the highway; however, the lack of a commitment to reclaim the material as part of this plan is somewhat troubling. Does Lake County have any present or future use for the waste material? It is DOGAMI's position that the backfilling would be a part of the mining operation and therefore subject to the state mining reclamation law. Reclamation of the waste pile would entail slumping the waste piles so that slopes are stable and ensuring that sufficient growth medium to support vegetation is present.
- [40] • The concept of permanent habitat loss implies complete reclamation failure (page 80). The type of habitat and wildlife usage may change but, if reclamation is done well, the reclaimed area can provide valuable habitat. Often small features such as rock piles left in a random fashion and small mounds of soil surrounded by rocky areas can provide valuable habitat.
- [41] • There is potential within the constraints of the proposed project to create significant raptor habitat to offset any losses that may occur as a result of mining. Perhaps instead of leaving uniform slopes at 22 degrees (page 21) the topography could be varied leaving chutes and aprons to provide nesting and perching areas for raptors.
- [42] • Details of the reclamation plan will be monitored and administered by DOGAMI as well as the BLM.
- [43] • DOGAMI recommends limiting the height of growth medium storage piles to less than 20 feet to reduce conspicuous and protect growth medium integrity.
- [44] • The visual impacts of the white perlite material could be reduced with the selective use of artificial weathering agents.

I look forward to continuing to work with the BLM on this project and will assist in reclamation plan development as much as possible. My phone number is (541) 967-2039.

Sincerely,

Pat D. J. J.
Peter J. Wannier
Reclamationist
Mined Land Reclamation

c: Atlas Perlite

17W/19 0031125 kt



1544 Queen Avenue SE
Albany, OR 97321
(503) 967-2039

RESPONSE 39

The purpose of moving the overburden to the existing county rock pit is twofold. It will reduce the total cultural and visual impacts of the perlite mining operation. The overburden will then either be used as road fill or as backfill when the county ceases operation at the pit. Therefore, over the long term there will be no waste pile needing shaping or reclamation.

RESPONSE 40

It is true that small piles of spoil rock may create new or additional habitat for certain small mammals or ground-nesting birds. However, mining disturbance also destroys existing habitats for other species. The qualifying term "valuable" is speculative.

RESPONSE 41

Until the mining operation ceases completely, any potential raptor nesting habitat created is unavailable as the disturbance associated with blasting, ripping, hauling, etc. would prevent use. The BLM disagrees that this constitutes "significant" raptor habitat creation.

RESPONSE 42

Comment noted. The text describing the reclamation plan (page 17 of the DEIS) has been revised to note this (see Chapter III, page 16 of the FEIS).

RESPONSE 43

There will be no problem meeting this recommendation as very little growth medium is available on the site due to shallow soils.

RESPONSE 44

The option of using artificial weathering agents was discussed as a mitigation measure on page 96 of the Draft EIS.

LETTER NO. 11

TO *151 - 807th*
97/30
 FROM *Private -*

FRUIT & VEGETABLE VARIETY
 18 NORTH E STREET, PO BOX 950
 LAKESIDE, OHIO 44130
 803 1/2 200

SUBJECT *Private -* DATE *11-28-95*

[45] *The are in favor of this operation -*
Believe out of this way
Wallace L. Fry
Wallace L. Fry

PLEASE REPLY TO *Betty J. Fry*
 SIGNED *Betty J. Fry*

RESPONSE 45
 Comment noted.

DATE _____ SIGNED _____
 THIS COPY FOR PERSON ADDRESSED

LETTER NO. 12



LAKE COUNTY
CHAMBER OF COMMERCE

513 Center St. Lakeview, Or. 97630 (503) 947-6040 LAKEVIEW, B.T.M.

RECEIVED
DEC 11 1995

Bureau Of Land Management
1000 South 9th St.
Lakeview, Or. 97630
Attn: Ken Tillman

December 4, 1995

Dear Ken,

On behalf of the Lake County Chamber of Commerce Board of Directors, we would like to express our support of the Atlas Perlite Mining project at Tucker Hill.

In July 1995, Atlas Perlite made a presentation to the chamber membership at a Forum Luncheon. In this presentation we were impressed, with their company and the thorough research they had done before deciding to mine at Tucker Hill.


The timing for a new company to move to Lake County and employ 15 to 20 people is perfect. We are losing young people who have been lured off work from Lakeview Lumber and this project may help alleviate the loss of population. Also, Lake County's unemployment rate is a full point higher than a year ago at this time.

The additional use of the Lake County railroad is a definite asset to the county and the other users of the rail system, not to mention the additional revenues the county will gain through taxes.

Considering the above mentioned concerns, the chamber highly recommends you approve this project and that it move forward in the time frame proposed by the company.

Thank You for taking time to review our comments.

Sincerely


Barbara Gover, Executive Director
Lake County Chamber of Commerce

RESPONSE 46

Comments noted.

LETTER NO. 13

October 26, 1995

Scott Florence
BLM - Lakeview District
P.O. Box 151
Lakeview, Oregon 97630

RE: Tucker Hill Perlite Project Draft EIS

What follows are comments relating to the Tucker Hill Perlite Draft EIS:

1. "the demand for perlite in the U.S. is limited...Atlas anticipates securing contracts to provide a five year supply to markets in the northwest." (Page 1)

How does this statement mesh with "The additional jobs (12 direct and 6 indirect) along with the additional income, taxes, and employment diversity provided by the mine would be significant to Lake County." (page 95) It is ludicrous to say that a five-year twelve-job operation will have a "significant" impact. This operation is like a flea on a buffalo.

[47]

2. "Test evaluations of bulk samples from Tucker Hill perlite indicate that the perlite is of the universal variety suitable for a wide variety of expanded perlite products, and that it performs as well as, or better than, other perlite ores currently being processed. (Atlas Perlite, Inc. 1994)." (Page 31)

This statement sounds like an advertisement. It is based upon information apparently gathered by the company, but no evidence is cited to prove it is true. If an assertion is made, then it should be backed up by some facts. The company who stands to profit from this operation is making this statement so its reliability should be suspect and not included in this document.

[48]

3. "The Klamath Tribes do have a policy calling for no surface disturbance of their ceded lands. The Proposed Action would be in conflict with this policy." (Page 8)

[49]

The Tribes were at Tucker Hill first. They have priority.

4. "The holes would be loaded with a blasting agent and blasting performed in a typical mining industry method..." (Page 14)

What are the environmental impacts associated with blasting agents?

[50]

RESPONSE 47

This statement has been revised in the final document as follows: "In light of recent job losses within the county, the additional jobs (12 direct and 6 indirect), along with the additional income, taxes, and employment diversity provided by the mine is considered important to Lake County" (see Chapter III, page 22 of the FEIS).

RESPONSE 48

This statement is based on information the applicant has gathered during testing of the deposit. A statement has been added to this paragraph properly citing testing performed in 1994 by Wyant Machinery Co., Inc. and the New Mexico Bureau of Mines and Minerals Resources (see Summary, page S-2 and Chapter III, page 16 of the FEIS). The BLM had no reason to suspect the validity of this information as a mining company is only going to invest time and money pursuing a particular mine proposal if it has good information supporting that there is a mineral deposit of economic quality/value present.

RESPONSE 49

The document considers the input and concerns of not only the Klamath Tribes, but other Native Americans as well. As noted in the statement cited, the BLM is aware of the conflict between the tribal policy and the 1872 Mining Law. It has not yet been determined by existing administrative appeal or court decision that Native American concerns supersede or have priority over any other valid use of public lands. See also response to comment #7.

RESPONSE 50

Text has been added to the final document to address this concern (Chapter III, page 16 of the FEIS).

RESPONSE 51

The citation presented represents a study conducted over 23 years ago and is outdated. Agency and industry experience has shown that slopes as steep as 1.5h:1v can be both stable and successfully reclaimed and revegetated. Numerous case studies exist which demonstrate that revegetation is more a function of surface organic material, rock toxicity, slope, aspect, and dump material erodibility, than slope angle. Salient factors in waste rock site reclamation are outlined as follows:

Erodibility may actually increase on shallower slopes because of a larger surface slope area being exposed to rainfall. This larger area collects more precipitation which leads to increased runoff, and increased stream velocity. The total area of disturbance also increases greatly when steep slopes are regraded to shallower angles.

The capacity of earth materials to resist erosion is a function of its strength, which, in turn, is determined by its mass strength, particle/block size, inter-particle bond strength relative to shape and orientation (Golder Associates, 1994). Because perlite is a hard, brittle rock it has an inherently high strength.

Because perlite is an inert glass, there are no toxic metal or pit problems which would interfere with vegetative growth.

Regrading the waste rock dump site to a shallower slope would increase the site's topsoil requirements. Since on-site topsoil is very limited an increased surface area would either be left without topsoil or additional topsoil would have to be imported. This would require the use and evaluation of an offsite borrow area and would increase the total impacts.

Hotter, dryer south-facing slopes typically revegetate more slowly than wetter, cooler north-facing slopes, regardless of the slope angle.

Waste rock dump sites at the Jamestown mine in northern California have been recontoured to 2.5h:1v slopes then seeded (Botts, 1992). Another mine in southwestern Colorado has a final dump slope configuration of 2.5h:1v which has been successfully revegetated (Kleco, 1990). In central Nevada, another mine dump site occurring on a very steep slope has been successfully reclaimed to a natural contour of 1.5h:1v, seeded, and mulched (Frolli, 1992). (All citations used here are included in Chapter III, page 23 of the FEIS).

This concern is a moot point as the preferred plan will have no permanent waste rock pile requiring reclamation.

RESPONSE 52

This statement was intended to mean there would be no permanent or long-term ponding expected to occur on-site because the site occurs in a climate zone of low precipitation (10-12 inches total per year) and therefore little overland flow is expected, relative humidity is low most of the year and summers are hot, ergo high evaporation, and as noted in the text, the underlying rock is porous allowing for infiltration. The text has been clarified (Chapter III, page 17 of the FEIS). At the completion of mining, the bottom of the quarry would be at the same elevation as the access point. Thus, the quarry would not serve as a topographic impoundment over the long-term.

CEQ NEPA implementation regulations no longer require a worst case scenario analysis. Based on the factors described above, even a 100-year event does not produce a significant quantity of overland flow in this area.

There is ample evidence that water percolating through the bottom would not cause groundwater pollution. The site receives little annual precipitation and the water table is over 300 feet below the surface. Perlite is a nearly inert rock which does not exhibit deleterious chemical properties and is even used as an additive of potting soil. Evidence is also presented in the chemical analysis shown in Appendix V of the FEIS. Finally, the toxic characteristics leachate procedure shows no detectable leachable metals and virtually non-detectable acid producing potential.

5. "The outer slope of the dump would be constructed to approximately an overall slope angle of 1.5 horizontal to 1.0 vertical during operations and graded to a final slope of 2.5h:1v upon final reclamation." (Page 16) "The proposed regraded dump slopes (2.5h:1v) would provide for a long-term stable environment and would allow growth medium placement and operation of reclamation equipment." (Page 18)

This information is erroneous. According to *Geomorphology and Reclamation of Disturbed Lands* by Terrence Toy, "Maximum vegetative stability cannot be obtained on slopes steeper than 33% (3:1). Optimum stability requires slopes of less than 20% (4:1) (US EPA, 1972), and the use of agricultural machinery may require that slopes be no greater than 20% (5:1)." (Attached)

6. "Upon reclamation, the Tucker Hill quarry would remain as a potential impoundment area. However, no groundwater would be ponded, as demonstrated by test drilling, to depths below the quarry bottom. The small amount of runoff entering the quarry from up-gradient areas and the runoff from quarry walls themselves would rapidly evaporate and/or infiltrate through the porous rock so no standing water would be expected." (Page 20)

This statement is contradictory. If this is a potential impoundment area, then what evidence is available to indicate that no groundwater would be ponded and that runoff would rapidly evaporate? What will be the scenario during storm events? How much water will accumulate during a 24 hour 100 year storm? There is no analysis of the worst case in this document.

Further, "Although surface waters from storm events would be expected to infiltrate into the pit bottom, no contamination to groundwater would be expected from the quarry operation." (Page 85)

How can this pit be both an impoundment area and a non-impoundment area? What evidence exists that water percolating through the bottom of the pit will not pollute groundwater?

[51]

[52]

7. "The BMMR data reflect the total metal content of the materials tested and indicate that none of the metals tested show any mobility during the test procedure. The test for acid-base potential indicates there is a substantial excess of neutralization potential of the material which suggests that the potential for the generation of acidic conditions and potential mobilization of metals, would be low." (Page 20)

[53]

witness the Homestake McLaughlin mine in California. Their host rock is acid neutralizing and yet, they have an acid mine drainage problem. The EIS does not outline the tests which were used to come to this conclusion nor their reliability.

8. "The quarry would be left in its final configuration. The quarry walls would be left with overall slopes of approximately 22 degrees." (Page 21)

[54]

Will the walls be benched? The EIS does not discuss pit wall stability over the long-term for this quarry.

9. "Further, placing the excavated waste from the waste rock dump into the quarry would not result in an improved backfill condition since the bulk (99%) of the excavated material would be perlite ore. Backfill would create an economic obstacle should the quarry be re-opened." (Page 22)

This statement appears to be propaganda from the mining company. It is not clear why the excavated waste would not result in an improved backfill condition. The waste originated from the pit, to say that backfill would create an economic obstacle should the quarry be re-opened is untrue. To leave an open pit would create an economic liability, who is going to assume the responsibility for this pit? The mining company profited from it, so the mining company should carry insurance to protect taxpayers from this menace. Additionally, to maintain a hazard indefinitely to satisfy the whims of the mining industry is not acceptable. The 1872 Mining Law has no provisions to support this scheme.

[55]

RESPONSE 53

The Tucker Hill perlite deposit cannot be compared with the McLaughlin mine as the two deposits formed in completely different geologic conditions. Perlite is an inert, volcanic glass. The McLaughlin deposit is an epithermal gold-mercury deposit containing large quantities of metals, widespread hydrothermal alteration, and localized sulfide mineralization. Tucker Hill and the surrounding rock contains neither sulfides nor hydrothermally altered rock. See also response to comment #52 and Chapter III, page 17 of the FEIS.

RESPONSE 54

The final quarry walls would be left in approximately 22 degree slope repose with benches approximately 10-12 feet vertical by approximately 25 feet horizontal. This would provide a very stable final slope. The description of alternatives has been updated to reflect this (Chapter III, page 18 of the FEIS).

RESPONSE 55

The statement is intended to point out that up to 99% of the material removed is perlite ore which would be permanently removed from the site. There will be very little material (about 1%) remaining to use as backfill at the end of the proposed 10-year perlite mining operation. In order to completely backfill, a substantial amount of off-site material would need to come from some other undisturbed site. This, in turn, would cause additional environmental impacts and associated potential liability and would not be environmentally preferable.

The existing perlite deposit is fairly deep. Placing the waste rock back into the perlite quarry would cover underlying perlite. This would be a wasted effort should demand for perlite continue beyond the 10-year plan of operation/EIS and the claimant decide to prepare a new plan of operation/NEPA document to operate beyond the initial 10 years.

During mine operation, safety and liability would be the responsibility of the mining company. They will be required to comply with all applicable Federal and State health and safety laws/regulations. This issue is addressed, in part, in the last paragraph of page 22 of the Draft EIS. Following the completion and acceptance of the reclamation activities, liability would revert back to the Federal government. Following successful reclamation the liability of the site should be low. Further, the BLM does not see how the safety liability of the reclaimed pit would be any greater than that of surrounding sheer rock cliffs commonly found on public lands.

RESPONSE 56

The applicant would construct this berm and maintain it during the project life. "Collapse" of a five foot high berm is not highly likely nor would it cause any serious safety problem. Maintenance is not expected to be required. Seeding of the berm would be done with the approved seed mix shown in Table 2-4 on page 22 of the Draft EIS. Burrowing animals are not expected to be a problem. During the life of the mine, most terrestrial animals would be expected to avoid the pit area due to human disturbance. Backfilling of the pit is not environmentally preferable for the reasons described in comment responses #5 and #55.

RESPONSE 57

The county gravel pit will remain open only as long as there is suitable material present, the county has a need to use it, and a valid permit is in effect. When one of these factors is no longer true, the county will be required to close and reclaim the pit in accordance with an approved reclamation plan.

Likewise, the perlite mine will remain open as long as the applicant has a demand for the material and a valid mining plan of operations is in effect. When one of these factors change, the pit will be closed and the applicant will be required to reclaim the site in accordance with an approved reclamation plan. As stated in comment responses #5, 55 and 56, there is not an adequate quantity of this waste material to backfill the perlite pit and the use of an off-site borrow source is not environmentally preferable.

The waste rock has a number of potential beneficial uses, one of which would be to use as fill when the county finally closes the gravel pit at the base of Tucker Hill. Lake County has expressed an interest in using this material for this purpose (letter dated September 5, 1995, contained in project file). If they did not use this material they would possibly have to find another source of fill material, which would cause additional off-site impacts which is not environmentally preferable.

A second potential beneficial use of this waste material is as road fill by either the Lake County road department or the Oregon Department of Transportation. As stated in response to comment #61, perlite contains far less crystalline silica than most other rock materials. The waste material generated from the perlite mine is essentially the same as the gravel material currently being used as road fill from the county gravel pit. Therefore, the potential impacts from crystalline silica dust would be no greater than from material currently being used for road fill from the gravel pit.

RESPONSE 58

There is only one known burial site in the area. It occurs, as stated, on the lower slopes of the formation. This is nowhere near the area of proposed disturbance. Oral histories and recent archaeological surveys have not located any other burial sites within the proposed mine activity area. The article cited has no bearing/relationship to this specific mining proposal.

Tucker Hill Perlite Draft EIS
October 26, 1995
Page 4

10. "If determined to be necessary by the agencies, the company would construct a rock waste material safety berm approximately five feet high with a one foot wide top and 1.5h:1v side slopes along the margin of the pit about 25 feet back from the highway edge. The berm would be posted with warning signs located in front of the berm and/or weather resistant metal signs would provide for public safety for many years following mining." (Page 22)

who is going to maintain the berm to insure it does not collapse? Will the berm be planted with native vegetation? Who is going to provide liability insurance for this nuisance? How will animals be precluded from burrowing into the berm/climbing over the berm and entering the pit area? Will the berm withstand storm events? Will erosion occur? Where will the eroded material go? Forget the berm. This pit should be backfilled. If the company cannot provide a safe environment, then they should not be allowed to mine. Additionally, the location of the berm in relation to the pit walls could change as the pit walls cave away. Metal signs are hardly a mitigation measure for the hazard this pit will create.

11. "There is an opportunity to utilize the waste rock material as either road surfacing material or as fill for reclamation of the gravel pit." (Page 29)

Explain why the waste rock is not suitable to fill the quarry but is suitable to fill the gravel pit. How can it result in an improved backfill condition for the gravel quarry, but not the perlite pit? Why would the gravel pit be filled when it is the philosophy of the BUM to leave pits open so they can be re-mined at a future date?

This material is not suitable as surfacing material. If it contains silica, then the material will be generated as dust emissions along roads and will be unhealthy for everyone. If metals are present, they could present a health hazard because these materials will be crushed from vehicle movement and emitted as dust.

12. "At least one burial site has been identified along the lower slopes of the formation. Oral history indicates that others are located in the formation." (Page 36)

It is immoral to mine a cemetery. Atlas/Dakota Mining is involved in a similar scheme in South Dakota at their Golden Reward Mine. See attached article *Please don't relocate Terry Cemetery*. Rapid City Journal, September 16, 1995

[58] Reward Mine. See attached article *Please don't relocate Terry Cemetery*. Rapid City Journal, September 16, 1995

RESPONSE 59

The soils found on Tucker Hill, like much of Lake County, are low or missing in selenium. Not all species of *Astragalus* uptake or absorb selenium from the soil.

RESPONSE 60

The remainder of the cited paragraph (page 71 of the Draft EIS) does discuss the known effects/hazards of amorphous silica within a larger class of potential air pollutants commonly referred to as dust. In addition, the expected health and safety impacts of dust resulting from the proposed project are discussed in the health and safety section of Chapter 4 of the Draft EIS (page 87). The proposed mine and processing facility would be required to operate in accordance with all applicable Federal and State environmental/safety laws and regulations including OSHA and MSHA safety regulations. Text has been added to the description of activities occurring at the processing site (Chapter III pages 18 and 21 of the FEIS) to clarify this.

RESPONSE 61

The majority of the material (99%) to be removed from the site is perlite ore. Perlite is a volcanic glass which contains a small amount of water. Glass is an amorphous material which lacks crystal development. Perlite forms when silicic magma cools so rapidly that crystallization of the melt is inhibited. If the magma had cooled more slowly, minerals would have crystallized in the magma and the resulting rock may have been a rhyolite (if extruded to the surface) or a granite (if cooled at depth).

It is true that perlite may contain trace to minor amounts of crystalline silica, but this crystallinity would occur as a contaminant within the ore. Volcanic glasses are unusual igneous rocks that are virtually devoid of crystalline silica. It is also correct that basalt is nearly 50% and andesite is nearly 60% silica. Granite or rhyolite can contain up to 75% silica. Approximately, 95% of the volume of the earth's crust is comprised of crystalline silicate minerals (predominantly quartz and feldspars) while silicon and oxygen (which form the silica tetrahedron) constitute nearly 75% of the mass of the earth's crust (Mason and Moore, 1982). However, when compared to the earth's crust, Tucker Hill perlite has a low crystalline silica content.

Tucker Hill Perlite Draft EIS
October 26, 1995
Page 5

13. "Astragalus species at the lower elevations." (Page 61)

[59] Astragalus species are indicators of selenium. Testing should be done by the BLM, not Atlas, to determine if selenium will be a problem at this site.

14. "Perlite per se is not known to present a health hazard either in the mining, milling or processing of the material. As a glass, it is amorphous and regarded as innocuous." (Page 71)

[60] The hazards of amorphous silica should be elaborated. Hazards include: eye discomfort, drying of the skin, physical discomfort to the respiratory tract. Amorphous silica may aggravate medical conditions such as conjunctivitis of the eye, dermatitis of the skin, asthma and respiratory diseases. Exposure control measures include the use of eye protection, chemical resistant gloves, protective clothing, and a respirator.

15. "Atlas tested the quarry for crystalline silica, and based on current information crystalline silica does not appear to be a concern for the Tucker Hill operation." (Page 71)

[61] An independent third party needs to retest this material. According to a report from the USBM, "Most diatomite, perlite and pumice products will contain trace to minor amounts of crystalline silica." New regulations list respirable crystalline silica (quartz) as a probable carcinogen and this should not be overlooked. Additionally, the reliability of the Atlas testing program should be questioned. Atlas submitted test results for their gold project at Grassy Mountain. Newmont leased those claims from Atlas and has publicly declared, many times, that Atlas testing was in error. (Article enclosed)

Further, the EIS says that the rock outcrops "consist mainly of unweathered basalt and andesite but include some hard sedimentary rock such as sandstone and conglomerate". (Page 49) According to *Environmental Geology* by Edward Keller, basalt is 60% silica and andesite is 60% silica. Therefore, the host rock should be analyzed for crystalline silica (quartz) along with any ground that will be disturbed. The USBM has said "quartz is present in most overburdens and host rock" and also says that quartz is present "in trace to major amounts in a wide variety of sedimentary rock types, ranging from shales to siltstones to sandstones and conglomerates." (report enclosed)

16. "If there is insufficient soil for reclamation, soil would need to be brought in from outside the project area."
(Page 77)

[62] where will the soil for reclamation be found? How will the areas donating soil be reclaimed and who will pay for the reclamation?

17. "If noxious weeds are found, the preferred treatment would be physical or manual extermination with selective chemicals..." (Page 78)

[63] what are the selective chemicals? what are their impacts to the environment?

18. "In addition to particulates from the haul road, the haul trucks would be a source of emissions of all criteria pollutants, except lead. Fugitive emissions resulting from fuel combustion from haulage vehicles are anticipated to be negligible." (Page 79)

[64] This discussion of roadside pollution is inadequate. Tires contain lead oxide, zinc and cadmium. "Diesel exhaust contains literally thousands of gaseous and particulate substances, some of which are known mutagens and/or carcinogens." (Information circular 9324, US Bureau of Mines) How far will these pollutants be broadcast, and in what concentrations, from roadways?

where is the analysis of dust impacts on roadside vegetation? Dust on leaves disrupts photosynthetic activity because of decreased light availability. Will herbicides be used along roadways if weeds become a problem?

Earthworms along roadways accumulate metals. How will this impact earthworm-eating creatures?

19. "If the visual impacts associated with the highwall of the quarry result in a sharp color contrast with the surrounding vegetation, consideration will be given to using a varnish or staining material to reduce the visual impacts." (Page 96)

[65] This suggestion is unbelievable. If the goal is to return the land to its natural state, then varnish and stain are unacceptable. How would the Native Americans feel when they see their sacred site stained and varnished? What are the environmental impacts of stains and varnishes? How long do they persist? Will restaining and revarnishing be necessary?

RESPONSE 62

The BLM has reevaluated the feasibility/desirability of importing topsoil for reclamation and has decided not to require this as it would increase the risk of noxious weed invasion and would cause additional disturbance/impacts at a borrow site. Tucker Hill soils have very little profile development and contain large amounts of rock. Solid rock is very close to the surface. The lack of a permanent waste rock dump site, as proposed under the preferred alternative (C), greatly reduces the need for topsoil. What growth medium is available will be spread on the site. Some areas such as the highwalls will simply not be topsoiled. The description of mine reclamation (Chapter III, pages 20 and 21 of the FEIS) has been modified to reflect this change.

RESPONSE 63

As stated on page 78 of the Draft EIS, noxious weed treatment, if necessary, will take place in accordance with control methods outlined for "new site discoveries" within an existing, approved resource area-wide noxious weed control plan. The environmental impacts (including the use of certain chemicals) have already been evaluated in Environmental Assessment #OR-013-93-03. This EIS tiers to this previous analysis and does not need to discuss or reanalyze these impacts in detail. If the commenter desires to review this impact analysis, then simply request a copy of the above referenced EA from the Lakeview District office.

RESPONSE 64

The BLM does not consider an increase of approximately 20 truck trips per day (100 trips per 5-day workweek) to pose a significant increase in the roadside pollutant levels described. The shallow, dry soils in the project area are not expected to support earthworm populations; therefore, food chain contamination via this pathway is not expected. Herbicide use is addressed in response to comment #63.

RESPONSE 65

As noted in the Draft EIS, it is expected that the remaining highwall will be much lighter in color than surrounding rock and will thus be very noticeable from a visual standpoint. Since it is not environmentally desirable to try to backfill the quarry and restore natural contours/color patterns for reasons already described, chemical treatment has been suggested and evaluated as one means of reducing the visual contrast/impact of the mine. Chemically treating the rock wall is a permanent process that has been used effectively in other areas to mitigate such visual contrasts. An example of one such product in use today is "Ebonite", an acid-based, two-step, neutralized process. Once applied, no corrosive by-products are produced. Nitrate fertilizer byproducts are present in low concentrations as a soluble residue. According to the manufacturer's specifications, hydroseeding or other treatment processes can be conducted within two weeks after treatment. The BLM recognizes and discloses within the document that not all impacts to cultural sites, such as the visual quality associated with a religious site, can be mitigated.

[66] overall, this EIS was too general, did not provide a detailed analysis, and relied too heavily on unsubstantiated claims made by the mining company.

In order to properly assess the true impacts of this project, the operating history of this company needs to be assessed.

[67] inspection will reveal that Atlas has a poor operating record elsewhere (documentation enclosed). This information needs to be available to reviewers so an accurate forecast can be made regarding the future of the public lands being proposed for destruction.

Finally, it is appalling that anyone would consider trashing a religious/burial site. Native American concerns should take priority here; anything less is unconscionable. The BLM and Atlas should be ashamed of their performance in this regard. Why would anyone pursue this project when it is of questionable viability and limited duration? Heritage is more precious than perlite.

Thank you for the opportunity to comment.

Sincerely,

Carolyn Brown

Carolyn Brown
Concerned Citizens for Responsible Mining
P.O. Box 957
Ontario, Oregon 97914

RESPONSE 66

Comment noted. The BLM considers the EIS to be an adequate assessment of the social and environmental impacts associated with this project.

RESPONSE 67

This information, though not entirely relevant to the proposed mining project, has been included in the project file and is available to anyone wishing to review it. In addition, Atlas has provided other documents demonstrating a good operating record and it also is available in the project file.

RESPONSE 68

The BLM recognizes and discloses within the document that not all cultural impacts can be mitigated. See also response to comments #7, 49, and 58.

LETTER NO. 14



Atlas Corporation
1701 Seventeenth Street, Suite 3150
Denver, CO 80202
Telephone: (303) 825-1200 Fax: (303) 892-8808

Richard K. Bulsaraugh
Vice President Environmental
and Governmental Affairs

December 4, 1995

FEDERAL EXPRESS

Mr. Ted Davis, Project Manager
Bureau of Land Management
U.S. Department of Interior
P.O. Box 151 (1000 Ninth Street)
Lakeview, Oregon 97630

Re: Tucker Hill Project
Comments on Draft EIS

Dear Mr. Davis:

Presented herein are Atlas' comments on the Draft Environmental Impact Statement (DEIS) prepared for the Tucker Hill Project. These comments are presented on behalf of Atlas Perlite, Inc. (herein referred to as Atlas). JBR has been advised of these comments by direct copy.

Comments

[69] Page iv, List of Figures, Line 6: Insert space between colon and Alternative C.

[70] Page S-3, 6th Para., 5th Line: Change the word "need" to "desire". It has not been established that Native Americans have used this area for religious purposes; only that there is a stated desire by some Native Americans that the area be made available for religious uses in the future.

[71] Page S-5, 1st Para., Alternative C: The BLM should obtain statement from Lake County that it intends to use the waste rock material or that it will reclaim any remaining material in accordance with the requirements of the Oregon Department of Geology and Mineral Industries (ODOGAMI). This will provide the ODOGAMI the necessary information for establishing surety

RESPONSE 69

Suggested correction incorporated (Chapter III, page 15 of the FEIS).

RESPONSE 70

Consultation with the tribes has indicated the continued preservation of Tucker Hill is a need, not a desire. The Native American religious system is tied closely to a sense of place. Without place, much of their religious system may have no meaning. Whether or not this is a need or a desire in the Native American religious belief system is determined by Native Americans. Applicable laws and regulations do not allow the questioning of the beliefs expressed. See also response to comment #33.

RESPONSE 71

The BLM has received such a letter (dated September 5, 1995) from Lake County. It is contained in the project file and is available for review.

RESPONSE 72

The determination of what is or is not of Native American religious nature is made by the Native American practitioners. It has been indicated that some of the rock cairns will be destroyed by the mine operation. Even if they were not destroyed, the close proximity to the road will have a negative impact on the site in the opinion of the Native Americans. Impacts to religious sites do not have to be physical to be major or significant in effect.

RESPONSE 73

See comment response #40.

RESPONSE 74

The blasting schedule allows unrestricted blasting from August 1 to November 30, and blasting with minimal wildlife clearances from December 1 to January 31 and July 1 to July 31 to protect nesting raptors. This amounts to 7 months of the year where the applicant can stockpile ore for later processing. However, both the Burns Paiute and Klamath Tribes have expressed concern over this proposed blasting schedule and conflict with cultural uses. The BLM and the applicant will need to consult further with the tribes to refine the schedule such that it avoids or minimizes impacts to these uses (see Chapter III, page 22 of the FEIS). See also response to comment #16.

RESPONSE 75

Comment incorporated (Chapter III, page 19 of the FEIS).

RESPONSE 76

If proposed by the BLM, an archaeological district for cultural values would not include private land. A footnote has been added to Figure 7 (Chapter III, page 23 of the FEIS and Figure 7 at the back of the FEIS) to clarify this. The important issue is not how much disturbance has occurred in the past, but relates to new disturbances. Just because the area has been disturbed in the past does not mean additional disturbance will not have an impact. The BLM recognizes that some impacts, past, present, or future, cannot be mitigated. BLM directives and regulations allow for a determination of significance for archaeological sites even though disturbance is present. Native Americans have, through consultation, indicated that the proposed mine would be a major impact to the cultural values of Tucker Hill. It should also be noted that an archeological district designation, by itself, does not preclude further disturbance. See also the discussion on page 75 of the Draft EIS.

RESPONSE 77

Objection noted. Consideration as a TCP was given to the area because of additional information provided to the BLM by tribal consultants, State Historic Preservation Office, and the Advisory Council on Historic Preservation which was not provided or contained in the Winthrop report. It has been determined that contemporary use is only one of many criteria which contribute to a TCP designation, but is not a required element. The final determination rests with the BLM who must use all available information in evaluating an area's potential for this designation, not just data/information provided by the applicant's consultant.

Mr. Ted Davis, Project Manager
Bureau of Land Management
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December 4, 1994
Page Two

[72] Page S-7, Table S-1: The impacts under *Archaeological Resources* refers to physical impact to ten (10) cultural sites including two stacked stone features. Atlas has no intention of physically impacting the two stacked stone features. The site is at least 20 feet from the road. Further, this site (contains both stacked stone features) is on private property and has been subject to recent use by cattle and humans. The features in question are those in the enclosed photographs. It is interesting to note that the vegetation growing among the rocks appears to cheat grass. It is difficult to see how the rocks shown in the photos could be religious artifacts. Whether they are or not is not really relevant since the rocks are not going to be disturbed by the proposed operation.

[73] Page S-8, Table S-1, Wildlife: It should be noted in columns A, B and C (or footnoted) that loss of wildlife habitat for raptors in the quarry area would only be temporary. There is excellent precedent and documentation to demonstrate the suitability of mine highwalls for raptor habitat.

[74] Page 12, 1st Para.: The proposed blasting schedule is very restrictive to quarry operations. Since the blasting would be very sporadic, it should have no more impact on wildlife than the occasional thunderstorm or sonic boom. Wildlife should be monitored and if there are no ill-effects noted, the blasting schedule should be modified accordingly.

[75] Page 39, 6th Para., 4th Line: This sentence should be modified to read better by inserting "the consulting" prior to the word "archeologist".

[76] Page 43, Figure 7: Figure 7 does not show the two existing gravel pits. According to the land status map the proposed Archaeological District includes some private land on the northern most boundary. Since the proposed district includes two gravel pits and numerous miles of road, it is very difficult to understand how the addition of a 20 acre quarry would have a significant impact on the archeology of an area in excess of 1,500 acres.

[77] Page 44, 2nd Para. Last Sentence: Atlas objects to the consideration of Tucker Hill as a Traditional Cultural Property (TCP). This determination is contrary to the findings of Robert Winthrop, Cultural Solutions, a professional ethnographer practicing in Oregon. He stated in his report, *Tucker Hill Quarry Project, Tribal Consultation and Traditional Cultural Properties Assessment*, dated September 30, 1995, "The lack of evidence (at least as collected in this study) for recent or contemporary use of Tucker Hill, or for the cultural salience of Tucker Hill as shown in legends, myths, or traditional practices specific to this property, makes nomination of Tucker Hill as a traditional cultural

Mr. Ted Davis, Project Manager
Bureau of Land Management
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Page Three

property inadvisable." Dr. Whitman also states, "Based on the information currently available, Tucker Hill does not appear National Register eligible as a traditional cultural property."

[78] Page 44, 3rd Para., 4th Line: While we have heard that there are proclamations from the Burns Paiute Tribe and the Klamath Tribe that the Chewaucum River Basin is sacred, we would have preferred to see the actual language submitted by the respective tribes included in this analysis.

[79] Page 54, 1st Para., 3rd Sentence: There is not any justification for saying that some of the plants occur *only* in the proposed quarry site. This statement seems to be refuted by the remaining discussion. Is this statement correct? If so, which plants occur *only* in the quarry site?

[80] Page 56, 2nd Para., Last Sentence: Insert parenthetical brackets around "Mediterranean Sage."

[81] Page 83, 1st Para., 2nd Sentence: Eliminate the comma prior to "July" in order to make sentence clearer.

[82] Page 89, 3rd Para., Visual Resources, 3rd Line: Use of the word "temporary" is misleading, particularly if the County or State do not use the material as fill.

[83] Page 93, 1st Para., 1st Sentence: Change "know" to "known".

RESPONSE 78

Proclamations from the Burns Paiute Tribe and the Klamath Tribe have been submitted to the BLM and made part of the public record. It has been included in the text of the FEIS as Appendix VI.

RESPONSE 79

This sentence has been clarified (Chapter III, page 19 of the FEIS).

RESPONSE 80-83

Suggested changes/corrections incorporated (Chapter III, pages 20-21 of the FEIS). Note that the change requested for page 93 should be made on page 92, 1st paragraph, 1st sentence instead of page 93.

Mr. Ted Davis, Project Manager
Bureau of Land Management
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December 4, 1995
Page Four

Atlas thanks you for the opportunity to comment on this draft EIS. Please contact me or John Leally if you have any questions about the comments contained herein.

Sincerely,

Richard E. Blubaugh
for Richard E. Blubaugh

Enclosure

cc: G. E. Davis
J. Leally
L. Gorell
T. Randolph, JBR

December 5, 1995

Ted Davis
Bureau of Land Management
P.O. Box 151
Lakeview, Oregon 97630

RECEIVED
DEC 6 1995
LAKEVIEW, B.L.M.

Dear Mr. Davis:

This letter is in response to the Draft Environmental Impact Statement regarding the Atlas Perlite, Inc. proposal to develop a perlite quarry at Tucker Hill near Lakeview. Beyond the environmental and historical concerns listed in the DEIS, the Department of Environmental Quality has little comment. One concern which did come up, however, regards the Lakeview states, on pages 68 and 69, that the processing site was formerly a uranium processing location and that groundwater contamination has been detected at the site and downgradient from the site. In addition, the DEIS states that the expected source (tailings) of the groundwater contamination was removed from the site. There is no mention, however, of whether the contamination has been addressed at the site.

Since the groundwater is fairly shallow in this location it seems that new activities at the site would have the potential of influencing whatever contaminant plume might remain from the uranium processing activities. The water quality samples referred to on page 69 were apparently collected from the two wells on or near the property which are described on page 68 as being upgradient from the contaminant plume. Therefore, the quality of the water samples from those wells would not yield information about the current status of the contaminant plume.

DEQ recommends that information be gathered regarding the present extent of the plume and regarding the remaining concentrations of contaminants from the former uranium processing facility. This information should be used to evaluate the potential influence on the contaminant plume which might be created by new processing activities at the Lakeview site.

The proposed facility will be required to apply for a general National Pollutant Discharge Elimination System (NPDES) storm water permit for point source discharges of storm water runoff to surface waters of the state. Please provide the Department's Bend Office with a copy of the storm water disposal plans for the proposed facility



2146 NE 4th Street
Suite 104
Bend, OR 97701
(503) 398-6146
DQ/CLK/ML

DEPARTMENT OF
ENVIRONMENTAL
QUALITY

EASTERN REGION
Bend Office

RESPONSE 84-85

Site cleanup occurred many years ago in accordance with applicable Federal and state laws and regulations. Since that time a sawmill operated on the site for several years. Currently, the site is being redeveloped privately by a number of different industries. If residual contamination is still a problem, it falls under the responsibility of the U.S. EPA and Oregon Department of Environmental Quality to do follow up monitoring and/or remediation of the residual groundwater contamination, not the BLM. The main purpose of including a discussion of the contaminant plume was threefold:

- 1) To demonstrate the plume is hydrologically down-gradient (between 1,800 and 4,300 feet) from the proposed perlite processing site.
- 2) To show that the groundwater used for dust suppression at the proposed processing site would not consist of water contaminated by the plume.
- 3) To explain that there is a large supply of groundwater in the area and the proposed facility would neither draw contaminants towards the facility nor impact the overall supply of groundwater to nearby users.

No discussion of contamination at the proposed processing site was included because impacted groundwater was only detected at the down-gradient former tailings storage site. Impacted water does not occur at the proposed processing site. The water quality samples presented in the Draft EIS are from the actual wells which would be used by the facility. These wells have been in existence/use for many years and have not drawn impacted water from the plume. In addition, monitoring wells located immediately upgradient of the former tailings area did not contain elevated concentrations of contaminants. These data indicate that the plume has not migrated towards the proposed processing facility.

RESPONSE 86

The applicant will be required to apply for and obtain all necessary permits, including an NPDES stormwater discharge permit prior to beginning operation.

LETTER NO. 16

Lake County Board of Commissioners

513 Center Street
Lakeview, Oregon 97630
Phone (541) 947-6004
Fax (541) 947-6015

Robert M. Pardue, Chairman; Jane O'Keeffe, Kathleen Collins

December 5, 1995

Mr. Ed Singleton, Dist. Manager
Bureau of Land Management
1000 South 9th St.
Lakeview, OR 97630

Dear Mr. Singleton,

Enclosed please find the minutes of the Public Meeting held on Monday, November 27, 1995 in the Senior Community Center. You will also find enclosed several letters of interested citizens who resided in the area south of Paisley in the early twentieth century. Please note, also, for the record, that a video tape of the November 27, 1995 meeting is filed in the records of the Lake County Commissioners Office.

We believe the comments made at the public meeting represent the support of Lake County and its citizens for moving the Atlas project ahead on Tucker Hill. Many of the statements made represent our concern that the significance of the cultural and religious significance of the area, especially at the specific site, are somewhat exaggerated.

From testimony, it appears the four sites directly impacted by mining are not that significant, only scattered flakes of obsidian. It would seem to follow that these flakes need to be tested for depth. It appears that solid rock is just under the surface. Those sites that are adjacent to access roads or are visible from the disturbed area also seem to have little significance and will not be materially altered by this project.

It should be remembered that this area has been used extensively since settlers arrived in the mid 1800's. A road previously passed through Tucker Hill. A power line passes through the area. A state highway, Highway 31, goes through the basin. A county gravel pit is located on site number one. There are at least 8 previous quarries on Tucker Hill. The area has been extensively used for agricultural purposes for many years. Until your recent EIS appeared, there apparently has never been any

RESPONSE 87

Comments noted. Public meeting notes have been included as part of the official project file and are available for public review. See also comment response #33.

RESPONSE 88

See comment responses #33 and 72.

RESPONSE 89

See comment response #76.

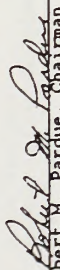
objection to the above activities and infrastructure lodged by the Native American tribes.


In summary, Lake County supports the BLM preferred alternative. We believe it is important at this time when our natural resource based economy is being threatened to find a reasonable means to promote the wise use of the present resources that exist in the county.

[90]

We urge you to continue to support the preferred alternative. It is a reasonable and positive approach to developing the resource for the benefit of Lake County and its citizens. It can be accomplished without destruction of significant Native American artifacts.

Sincerely,


Robert M. Pardue, Chairman
Lake County Commissioners


Jane O'Keefe, Commissioner


Kit Collins, Commissioner

RESPONSE 90

Comments noted. However, the BLM must and does recognize that some cultural impacts cannot be mitigated.

LETTER NO. 17

1018 South 4th
Lakeview, Oregon

Mr. Ed Singleton
Bureau of Land Management
P. O. Box 151
Lakeview, Oregon

Dear Mr. Singleton:

From 1927 to May, 1930 I attended school at the Landon School which was located almost at the foot of Tucker Hill. During those years I did not see any Indians there. Neither did I see any prior to or following that time.

[91]

The Clover Flat road at one time went right by the school. My family lived on what was known as the Mose ranch and travelled the road frequently. Never was mention made of Indians at Tucker Hill. Surely one would have heard, through the years, of their presence and any gatherings.

I was born in 1921 and lived in the area until the late 1940's except for time spent while attending business college in Berkeley, California. Even while living in Lakeview we often visited the ranch until the early 1970's.

Sincerely yours,

Anna M. Duval

Anna M. Duval

RESPONSE 91

Comments noted. See also response to comment #33.

LETTER NO. 18

GREAT WESTERN
RAILWAY OF OREGON
1410 South Third
Lakeview, Oregon 97630
Telephone (503) 937-2414

RECEIVED
DEC 5 1995
LAKEVIEW, B.L.M.

REC-1111-D
OF 1995
LAI **OmniTRAX**

Scott Florence
Bureau of Land Management District
P.O. Box 151
Lakeview, Or. 97630

12/1/95

Dear Mr. Florence,

I am writing in support of the proposed mining, of perlite, by
Atlas Mining Company, on Tucker Hill.

[92] The economy of Lake County, must be, allowed to become more
diversified. As most citizens of this county are fully aware,
timber and wood product jobs are slowly disappearing, cattle
production is under pressure, and the Federal Government will
probably be reduced in size as the budget shrinks.

I feel, that this project is environmentally benign or very nearly
so. Lake County is very much in need of good paying jobs, and low
polluting industries.

[93] The archaeological sites on Tucker Hill, if considered to be
significant, and are in the area to be mined. They should be
excavated and stored, or placed on display in a museum as any
other antiquity would be.

[94] As a life long resident of Lake County, (43 years) I have not
seen any Native American use of this sight, as a religious or
ceremonial sight.

Thank You for your time and consideration.

Barry J. Gray

Superintendent

Great Western Railway of Oregon
1410 South 3rd St. 97630
Lakeview, Oregon.

RESPONSE 92

Comments noted.

RESPONSE 93

While the removal of some types of cultural sites may be possible, other types, such as those with religious value, cannot be mitigated. Recent changes in Federal law require that some types of cultural materials excavated must be returned to the appropriate Native American people and can no longer be kept or displayed in non-native museums.

RESPONSE 94

See response to comment #33.



The Klamath Tribes

P.O. Box 436
Chiloquin, Oregon 97624
Telephone (503) 783-2219
FAX (503) 783-2029
800-524-9787

RECEIVED
DEC 12 1995
LAKEVIEW, B.L.M.

December 12, 1995

Edwin J. Singleton
District Manager
Bureau of Land Management
Lakeview District Office
P.O. Box 151 (1000 Ninth Street S.)
Lakeview, Oregon 97630

Dear Mr. Singleton:

Thank you for the chance to review the Draft Environmental Impact Statement (DEIS). The context of the DEIS seems to be in order, how ever there are a few comments that I feel are important and would like to have them as part of the record.

Cultural Resources:

The Klamath Tribes believe that no project regardless of the revenue is worth destroying a religious site. This site's left by our ancestors can not be replaced or mitigated, the destruction of a Native American religious site is irreplaceable.

[95]

Cultural Resource Sites will be damaged during this project. This is something that has gone on for many years in this area with out challenge, not only through development but through illegal collection of artifact.

Traditional Foods:

The largest part of the quarry operations would take place during certain times of the year (early summer and late fall) these are the times when Tribal members will be out gathering plant foods and [96] other plant resources.

To have development or mining work during this time would not only restrict but would greatly impact the need or want to use this area, during this most critical time for plant resources.



RESPONSE 95

Comments noted. The BLM recognizes within the document that some cultural impacts cannot be mitigated.

RESPONSE 96

See comment responses #16 and 74.

Visual Quality:

The Klamath Tribes are greatly concerned with the impact on visual quality, to remove large amounts of rock from the formation will greatly impact this sacred area.

[97] The purpose of designating Cultural Landscapes is to identify areas of historical or cultural importance (Native American Use) where the integrity of the existing landscape still provides a visual picture of the important historical and cultural features. The Klamath Tribes considers Tucker Hill to fall within the cultural landscape designation.

Denied Access:

[98] The Klamath Tribes have been denied access to this area for a very long time. This area has held important resources used by the Klamath Tribes for thousands of years. Prejudice towards Indian people coming to this area to visit or gather resources has been a long time practice.

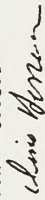
Need For Perlite:

[99] As stated in the DEIS (although Tucker Hill contains an extensive supply of perlite, the demand for the product is limited and is not expected to expand significantly). Then why destroy a sacred area if demand is limited? There is no evidence presented indicating a need for a perlite source in the Western United States since the West is being adequately supplied by sources in New Mexico.

Over All Project:

[100] The Klamath Tribes are opposed to this project and have been from the start. When a mining project is held in higher regards than a place Indian people regard as sacred, we need to re-vise our management plans. If not there will always be a conflict between federal agencies and Indian Tribes on how cultural sites should be protected.

Uino Herrera



Cultural Site Specialist

DH

RESPONSE 97

See comment responses #17, 18, 20, 22, and 23.

RESPONSE 98

See comment responses #19 and 25.

RESPONSE 99

See comment responses #9, 13, and 15.

RESPONSE 100

Comments noted. At this time, the Lakeview District does not expect to be able to start a resource area-wide planning effort (Resource Management Plan) until fiscal year 1998.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Oregon State Office

2600 S.E. 98th Avenue, Suite 100

Portland, Oregon 97266

(503) 231-6179 FAX; (503) 231-6195

RECEIVED

DEC 14 1995

LAKEVIEW, B. L. M.

December 10, 1995

Memorandum

To: Manager, Lakeview District, Bureau of Land Management
(Attn: Ted Davis, Project Manager)

From: State Supervisor/Deputy Site Supervisor, Oregon State Office, Portland, Oregon

Subject: Draft Environmental Impact Statement for the Tucker Hill Perlite Project

We have received your draft environmental impact statement (DEIS) analyzing the impacts of the proposed perlite mining operation on Tucker Hill, Lake County, Oregon. We feel that some contaminant issues have not been addressed adequately in the DEIS and offer the following comments for your consideration.

In Chapter 4 under Alternative A - Proposed Action, there is a discussion of impacts of the proposed perlite mining operation on groundwater and water quality. The DEIS suggests that because perlite is "essentially inert" there will not be a threat of heavy metal contaminant transport or acid rock drainage from the waste rock dump site (this conclusion apparently would also apply to Alternative C as well except that the location of the dump site would be at the existing county gravel pit). However, there is no discussion of the potential impact of waste rock other than perlite that might be placed on the dump site during the mining operation. It is not clear whether the composition analysis presented in Table 4-1 is for perlite alone or for perlite and waste rock. Furthermore, it is confusing why perlite would exist to any large quantity at the waste dump site if perlite is the material of interest in this mining operation. We recommend that a discussion be included on the types of rock that might be expected in the waste pile and based on an analysis of that material, an assessment of the risk of contaminant transport from the waste pile.

There is a reference on page 85 of the DEIS to Appendix 6, which apparently is an analysis of material collected from Tucker Hill. Although this appendix might help address some of the issues mentioned above, Appendix 6 does not appear in the copy of the DEIS that we received for review. If Appendix 5 is the analysis referred to on page 85, then the data reported in this appendix need further explanation. At a minimum, the lab number and identification should be explained and the TCLP footnote should be modified so that it is clear which pieces of information in the table should be compared to arrive at a conclusion regarding metal leaching.

PRINTED ON UNRECYCLED PAPER

RESPONSE 101

The geology of the Tucker Hill perlite deposit is described in the technical paper prepared by J.L. Wilson and D.L. Emmons, 1985. As described, the commercial perlite occurs as a "chill margin" which surrounds a Miocene composite rhyolite lava dome. The chill margin has an outer glass envelope and an inner glass envelope. The outer glass envelope contains three distinct cooling units consisting of pumiceous perlite, vesicular perlite, and granular perlite. These cooling units are essentially the same rock, but vary in texture and the amount of gas entrapped in the rock. Pumice is a light-weight glass which contains abundant gas vesicles, to the extent that some pumice can float on water. (Vesicles are defined as "a small cavity in an aphanitic or glassy igneous rock, formed by the expansion of a bubble of gas or steam during the solidification of the rock"). Vesicular perlite is more dense and has fewer voids than pumice. Granular perlite contains few voids and has a "saccharoidal" (sugary) texture. All three textural forms comprise economic perlite.

The inner envelope consists mostly of "onion-skin" perlite, so named because it contains abundant spheroidal fractures which resemble the skin of an onion in hand specimen. Onion skin perlite is also of commercial quality; however, the onion-skin perlite zone locally has inclusions and layers of obsidian, which typically comprise between 0 and 10% of the onion skin zone. In the industry, the obsidian inclusions and layers are known as "marekanite." Marekanite differs from perlite principally in its texture and the amount of water in the glass structure. Marekanite will not expand upon heating and is therefore of no commercial value. Although the marekanite comprises only a few percent of the onion skin zone, Atlas reports that it cannot be easily separated from the onion skin perlite, and all perlite which has more than a small amount of marekanite would have to be placed in the waste rock dumps.

Because of variations in the local thickness of the chill zone near the surface, the waste rock dumps may also contain a small amount of glassy rhyolite from the core zone. The rhyolite is essentially the same composition as the perlite and obsidian, but cooled slightly more slowly. Consequently, the glass devitrified (the glass was converted to crystalline material) and fine-grained crystals (predominantly of feldspar) are present. The glassy rhyolite material also has no commercial value. Because the perlite quality decreases as the rhyolite core is approached, mining in most areas would cease before the glassy rhyolite core zone would be exposed, and only a small amount of rhyolite would likely be mined. The waste rock dumps will therefore consist predominantly of:

- 1) A small amount of weathered material from the surface;
- 2) A small amount of glassy rhyolite; and
- 3) A predominance of onion-skin perlite containing marekanite nodules and layers.

All of these rocks have essentially the same geochemical composition, and vary predominantly in texture. This is demonstrated in Figure 7 of the Wilson and Emmons report, which is a ternary diagram on which rhyolite and the various perlites are plotted. The compositional fields for each rock type vary by volume percent of glass, vesicles and crystallinities. Thus, the compositional analysis in Appendix V of the FEIS would likely apply to all of the waste rocks with only minor variations. Based on the data presented in Appendix V, none of the waste rock types would be expected to have any deleterious geochemical characteristics, nor any ability to transmit the identified metals into surface or ground waters.

RESPONSE 102

The referenced appendix should have been Appendix V and not Appendix 6. The text on page 85 has been corrected (see Chapter III, pages 21 and 23 of the FEIS). The author is also correct in that the Appendix V table and footnote should be clarified and corrected. The footnote reads "TCLP" and does not adequately describe the sample or the results of the TCLP analyses. The table has been revised to clarify the "acid soluble" and TCLP data.

- The issues raised above about waste rock also relate to the operations at the processing facility. [103] If there is the potential for waste rock piles to be created at the processing facility, consideration should be given to the composition of that waste rock, the potential for leaching of any contaminants, and the potential for impacts to well water or groundwater resources. We also are concerned about the tailings from the former uranium processing facility that is located to the west of the proposed processing plant. Although the DEIS states that the uranium tailings were removed, there is no information about any subsequent sampling to determine the success of that activity. The DEIS discusses the use of water at the proposed processing plant for dust control and states that no surface runoff will occur as a result of that activity. However, since the direction of groundwater flow is to the southwest, it is important to address the potential for water applied for dust control to contribute to groundwater flows that might contact soil containing residual contamination from the uranium tailings leachate.

We appreciate the opportunity to comment on this DEIS. If you have any questions about these comments please contact Ted Buerger at (503) 231-6179.

for Nancy K. Lee

RESPONSE 103

See response # 101.

RESPONSE 104

See response to comment # 84-85.

CHAPTER V CONSULTATION AND COORDINATION

List of Agencies, Groups and Persons to Whom Copies of FEIS were Sent

This chapter includes a list of additional groups and persons to receive a copy of the FEIS based on response to the DEIS. The additional names are:

Mr. & Mrs. Bob Rutledge
Yvonne June LeBarre
Douglas M. Elder
Bob and Diane Elder
Town of Lakeview
Wallace and Betty J. Eri
Lake County Chamber of Commerce
Anna M. Duval
Barry Gray, Great Western Railway of Oregon
U.S. Fish and Wildlife Service, Oregon State Office
Hank Albertson
Anna Duval
Wilson Wewa, Jr., Confederated Tribes of Warm Springs Reservation
Sam Sanchez, Dames and Moore
Jim Owens, Cogan, Queens, and Cogan
Jack Mozingo, SAIC
Charlene Lopez, Greystone
Fred Heivelin, Oil Dri
Steve Ellis, Tetra Tech
Linda Dansby, National Park Service
World Minerals
Fred Schmidt, Colorado State University Libraries
Scott Kessler, Modoc County Planning Department
Rex Ash
Bruce Crespín, BLM
Doug Barto, Kinross Goldbanks Mining Company
Gordon Bentley, BLM

APPENDIX V

NMBMMR Chemical Analysis

NEW MEXICO BUREAU OF MINES AND MINERAL RESOURCES (NMBMMR)
SOCORRO, NEW MEXICO 87801

REPORT OF ANALYSES¹

Lab No.	Sample Identification Number ²	Acid Soluble ³								TCLP ⁴							Tons CaCO ₃ /1000 tons		
		Cd ppm	Cr ppm	Pb ppm	Cu ppm	Se ppm	Ag ppm	As ppm	Hg ppm	Cd ppm	Cr ppm	Pb ppm	Se ppm	Ag ppm	As ppm	Hg ppm	NP	APP	NAPP
Perlite Ore																			
1345	5 yr. com	<1.2	24	25	16	<0.06	0.10	2.3	0.03	<1.0	<5.0	<5.0	<1.0	<5.0	<0.5	<0.2	24.5	0.9	-23.5
	1345 dup	<1.2	24	24	15	<0.06	0.10												
1346	1 yr. com	<1.2	24	25	16	<0.06	0.21	2.1	0.03	<1.0	<5.0	<5.0	<1.0	<5.0	<0.5	<0.2	25	ND	-25
	1346 dup	<1.2	22	24	13	<0.06											25		-25
1347	3 yr. com	<1.2	24	26	17	<0.06	0.21	1.5	0.01	<1.0	<5.0	<5.0	<1.0	<5.0	<0.5	<0.2	25	ND	-25
	1347 dup	<1.2	23	23	15	<0.06													
Expanded Perlite																			
1348	1 yr. com	<1.2	28	28	10	<0.06	0.21	1.3									139	ND	-139
1349	3 yr. com	<1.2	23	23	12	<0.06	0.06	1.5									192	ND	-192
1350	5 yr. com	<1.2	21	28	11	0.09	0.10	2.0									220	ND	-220

¹Corrected Analytical Report dated January 5, 1996.

²Samples are composite (com) samples of ore to be mined during years 1, 3 and 5 of anticipated mine life. Dup = duplicate sample for check analyses.

³Acid Soluble Analyses - Analytical method uses aqua regia digestion to detect total quantity of metals in the sample. Results do not indicate leachable metals.

⁴TCLP = Toxic Characteristic Leachate Procedure. All sample results were less than the analytical detection levels. The samples all pass the TCLP test.

NP = Neutralization Potential as tons CaCO₃ per 1000 tons material.

APP = Acid Producing Potential as tons CaCO₃ per 1000 tons material.

NAPP = Net Acid Producing Potential; (APP-NP) negative number indicates neutralizing potential.

SACRED SITES

WHEREAS, The Burns Paiute Tribe is an unincorporated Tribe of Indians having accepted the Indian Reorganization Act of June 18, 1934, amended, and the recognized governing body of the Tribe is known as the Burns Paiute Tribal Council; and

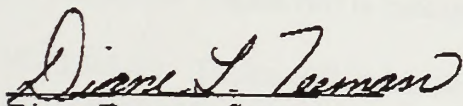
WHEREAS, The Burns Paiute Tribal Council, pursuant to the Constitution of the Burns Paiute Tribe, Article VI, Section 1 (a) is empowered to negotiate with the Federal, State and local governments on behalf of the Tribe and to advise and consult with representatives of the department of the Interior on all activities of the Department that may affect the Burns Paiute Tribe; now

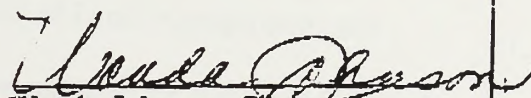
THEREFORE BE IT RESOLVED, that the Burns Paiute Tribal Council recognizes the Chewaucan River Drainage and rim area as a sacred site which includes vision quest sites; and

BE IT FINALLY RESOLVED, that the Burns Paiute Tribal Chairperson or authorized designate, is hereby authorized to sign, execute and accept the foregoing resolution.

CERTIFICATION

We, the undersigned Chairperson and Secretary of the Burns Paiute Tribal Council, hereby certify that the Tribal Council is composed of seven (7) members of whom five (5) constituting a quorum, were present at a meeting thereof duly and regularly called, noticed, convened and held on this 18th day of May, 1995, and that the foregoing resolution was duly adopted by affirmative vote of members, with 0 opposing and 0 abstaining. The Chairperson's vote is not required except in case of a tie.


Diane Teeman, Secretary


Wanda Johnson, Chairperson



The Klamath Tribes

P.O. Box 436
Chiloquin, Oregon 97624
Telephone (503) 783-2219
FAX (503) 783-2029
800-524-9787

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Klamath Tribes
Fish and Wildlife

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NOV 30 1995

LAKEVIEW, B.L.M.

RESOLUTION 95 - 42

EXECUTIVE COMMITTEE RESOLUTION OPPOSING MINING OPERATIONS AT TUCKER HILL AND AUTHORIZING PROTECTIVE MEASURES TO BE TAKEN

WHEREAS, The Klamath and Modoc Tribes and Yahooskin Band of Snake Indians signed the Treaty of 1864, establishing the Klamath Reservation; and

WHEREAS, The General Council of the membership is the governing body of the Tribes, by the authority of the Constitution and By-Laws of the Klamath Tribes (Article V, VI, Section IV E) as approved and/or adopted on April 10, 1982; and

WHEREAS, The Executive Committee is elected by the General Council to act on its behalf for execution of the day-to-day Government and business of the Tribes; and

WHEREAS, The Klamath Indian Tribe Restoration Act of August 27, 1986 (P.L. 99-398) restored federal recognition of the Sovereign Government of the Tribes' Constitution and By-Laws; and

WHEREAS, The Klamath Tribes are stewards of a unique culture that is shared, protected, maintained and enhanced by all Tribal members in our aboriginal territory; and

WHEREAS, Tucker Hill is a land formation within the Tribes' aboriginal territory containing burials, religious, cultural and archaeological resources important to the well being of the Klamath Tribes, and

WHEREAS, Tucker Hill is managed by the Bureau of Land Management; and

WHEREAS, Tucker Hill is deemed a sacred place and must be protected from any disturbance due to the religious and cultural importance to the Klamath Tribes.

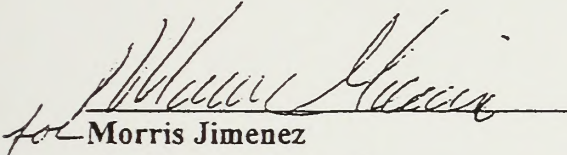
NOW THEREFORE BE IT RESOLVED, That the Klamath Tribes' Executive Committee opposes any disturbance at Tucker Hill and will take appropriate measures to protect this sacred area.

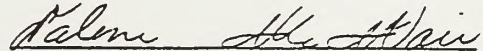


BE IT FINALLY RESOLVED, That the Klamath Tribes request that a full Environmental Impact Statement be completed by the Bureau of Land Management to ensure that all Tribal concerns are addressed.

CERTIFICATION

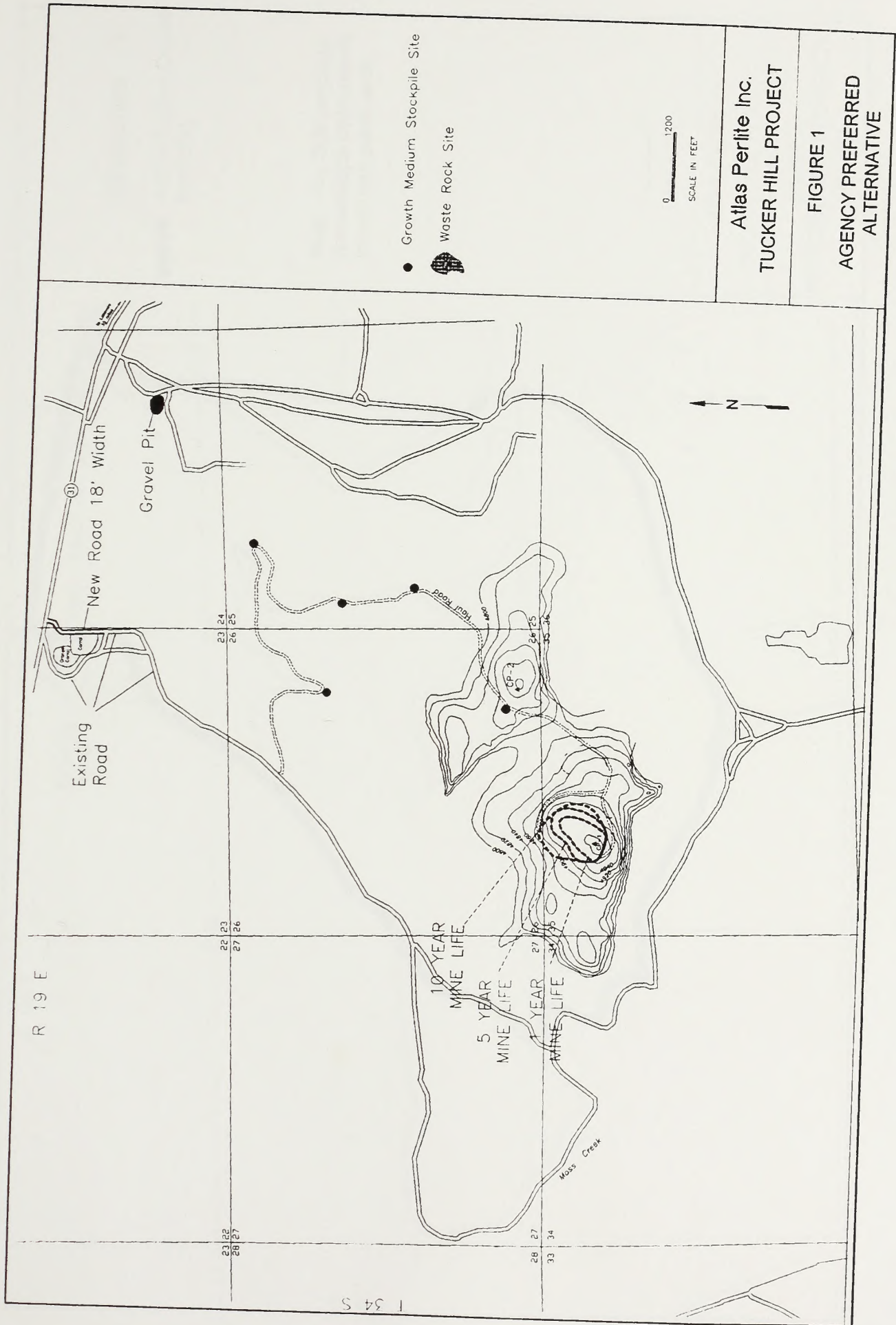
We, the undersigned, as Chairman and Secretary of the Klamath Tribes, do hereby certify that at a regularly scheduled Executive Committee meeting held on the 11th day of October, 19 95, where a quorum was present, the Committee duly adopted this Resolution by a vote of 9 for, 0 opposed, and 0 abstaining.


for **Morris Jimenez**
Chairman
The Klamath Tribes


Dalene McNair
Secretary
The Klamath Tribes

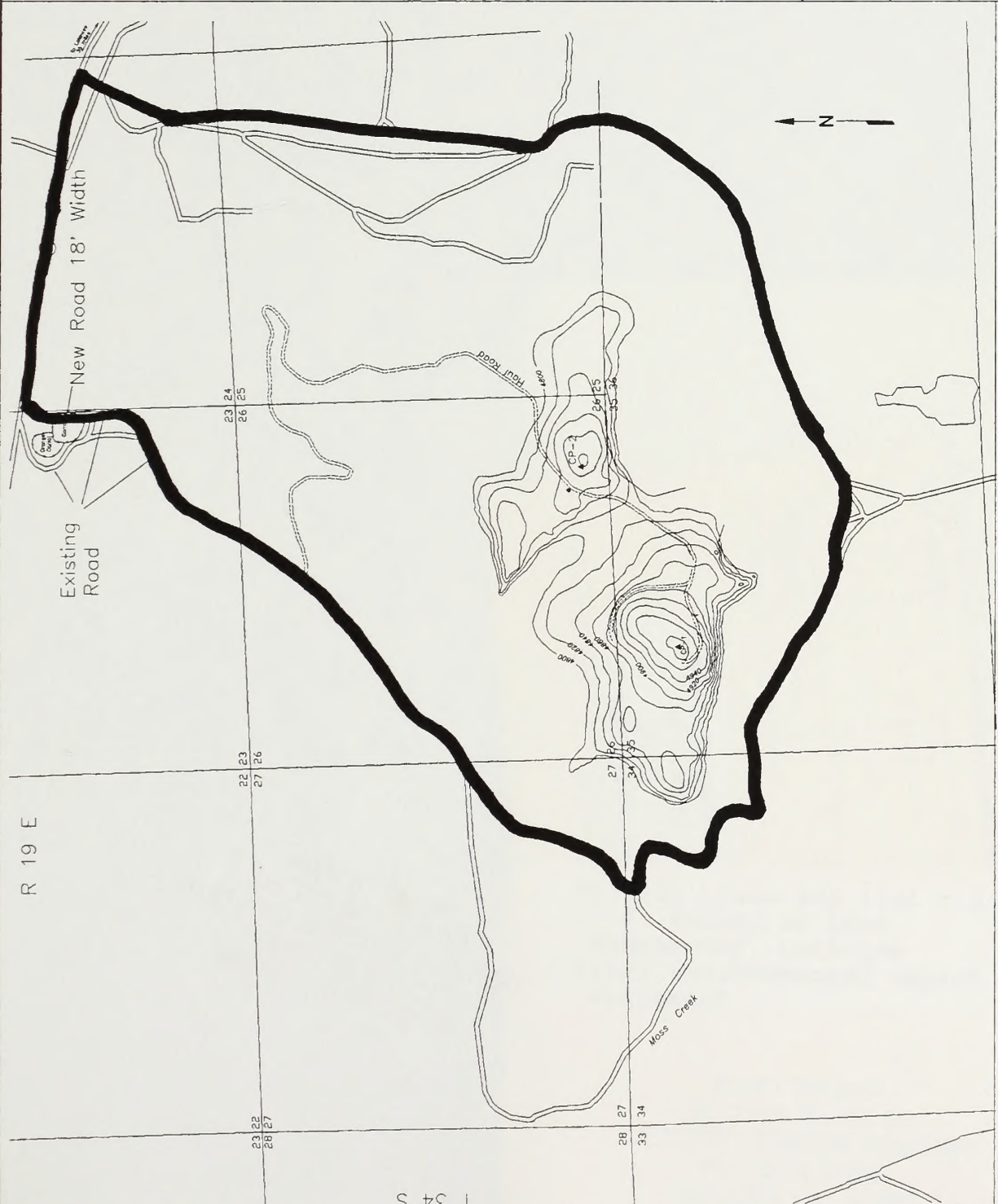
FIGURES






Atlas Perlite Inc.
TUCKER HILL PROJECT

FIGURE 1
AGENCY PREFERRED
ALTERNATIVE



EXPLANATION

 Archeological District Boundary

Note: Any BLM proposed Archeological District would include only public lands.

0 1200
SCALE IN FEET

Atlas Perlite Inc.
TUCKER HILL PROJECT

FIGURE 7
PROPOSED ARCHEOLOGICAL DISTRICT

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ER'S CARD

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Lakeview
conmental impact

OFFICE		DATE RETURNED

(Continued on reverse)

HD 9585 .P463 L35 1996 c.2
U. S. Bureau of Land
Management. Lakeview
Final environmental impact
statement

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